New 19” LCD Monitor DVR Combo
User’s Manual

English Version 1.0

Model : PCS-19/DVR-08

eneo®

WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

COMPLIANCE NOTICE OF FCC:

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE, IN WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

WARNING: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

The information in this manual is believed to be accurate as of the date of publication. The seller is not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.

Important Safeguard

1. Read Instructions
All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions
The safety and operating instructions should be retained for future reference.

3. Cleaning
Unplug this equipment from the wall outlet before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

4. Attachments
Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

5. Water and/or Moisture
Do not use this equipment near water or in contact with water.

6. Accessories
Do not place this equipment on an unstable cart, stand or table. The equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.

This equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

7. Power Sources
This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company.

8. Power Cords
Operator or installer must remove power and TNT connections before handling the equipment.

9. Lightning
For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the equipment due to lightning and power-line surges.

10. Overloading
Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

11. Objects and Liquids
Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

12. Servicing
Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.

13. Damage requiring Service
Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

A. When the power-supply cord or the plug has been damaged.
B. If liquid is spilled, or objects have fallen into the equipment.
C. If the equipment has been exposed to rain or water.
D. If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the equipment to its normal operation.
E. If the equipment has been dropped, or the cabinet damaged.
F. When the equipment exhibits a distinct change in performance — this indicates a need for service.

14. Replacement Parts
When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

15. Safety Check
Upon completion of any service or repairs to this equipment, ask the service technician to perform safety checks to determine that the equipment is in proper operating condition.

16. Field Installation
This installation should be made by a qualified service person and should conform to all local codes.

17. Correct Batteries
Warning: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

18. Tmra
A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.

19. Elevated Operating Ambient Temperature
If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

20. Reduced Air Flow
Installation of the equipment in the rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

21. Mechanical Loading
Mounting of the equipment in the rack should be such that a hazardous condition is not caused by uneven mechanical loading.

22. Circuit Overloading
Consideration should be given to connection of the equipment to supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

23. Reliable Earthing (Grounding)
Reliable grounding of rack mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

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1. Getting Started

The system comes with the following components:

LCD Combo

Instruction Manual

Client S/W Manual

Power Adaptor

Remote Controller

Installation CD

Ethernet Cable

Note: Check your package to make sure that you received the complete system, including all components shown above.

2. Introduction

Features

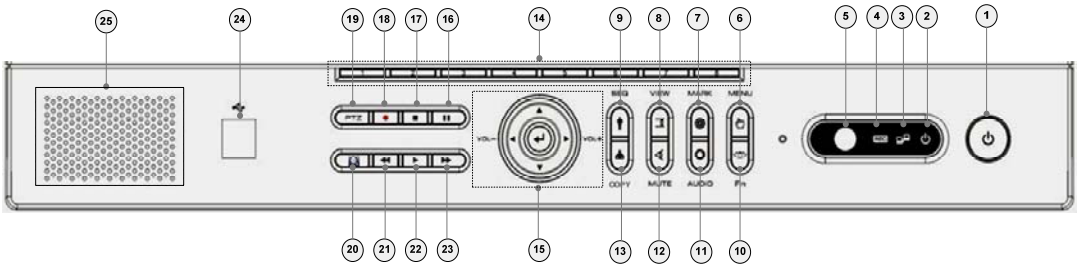
The 19" LCD monitor is an observation system with 8-channel color DVR processor.
The monitor operates as a triplex recorder offering up to 240 field/sec and four channel audios.

The monitor has the following features:

- 19" TFT LCD Monitor with built-in H.264 DVR.
- 4 composite video input DIN connectors and 4 composite video input BNC connectors. 8 BNC model can be also supported.
- Simple operator menus and easy to use front panel controls.
- Supports Recording, Playback, and networking at the same time.
- Records up to 240 FPS (Frame Per Second) for NTSC with 352x240 resolution.
- Full screen and Multi-screen camera sequencing with programmable sequence order and dwell times.
- VGA Input - use your LCD Display as a PC monitor
- Alarm handling with history log (32,000) and Pre-alarm recording.
- Import and export the menu settings by USB.
- Daylight savings time change function.
- PTZ control via the RS-485 network using front panel keys.
- Continuous Recording with the overwrite Mode.
- Multiple Recording Mode (Schedule, Pre-Event, and Event Recording)
- Multiple Search Engines (Date/Time, Calendar, Event, Text-In, Bookmark)
- Four channel audio recording (Camera 1,2,3,4) and selectable one channel audio playback.
- Text Input for POS
- Network Time Synchronization
- Self-diagnostics with automatic notification including hard disk drive S.M.A.R.T. protocol
- On Screen Display includes Date, Time, Sequence, Alarm status, Motion, Freeze, Video loss, Audio, Camera number and 8 -Character camera titles.
- Alarm input polarity is user selectable.
- Live or Recorded Video Access via Ethernet.
- Programmable motion-detection.
- Built-in Hard Drive with SATA interface.
- Two USB 2.0 Ports
- Infrared Remote Control.

3. Major Operating Controls and Functions

3.1 Front Panel



The configuration and function of the front panel are similar to those of VCR's with a multiplexer and requires similar operation. Certain keys have more than one function.

3.2 Key Function

The descriptions for each key used for the initial setting and operation of the system are as below.

Function keys

NO	FUNCTION	DESCRIPTION
1	⏻, POWER	Press the ⏻ key to turn the monitor ON. Press ⏻ key again to turn the monitor OFF. The power LED illuminates while the power switch is in the ON position. Press and hold the key during 3 seconds or more to shutdown the system.
6	MENU	Press the **MENU** key to enter or exit the menu setup mode. Press and hold the key during 3 seconds or more to enter the LCD Control Mode.
7	MARK	Press the **MARK** key to mark the point of the bookmark search in the playback mode.
8	VIEW	Press the **VIEW** key to display multi-screen. Pressing the key again toggles the screen between Q1 (1, 2, 3, 4), Q2 (5, 6, 7, 8), 6(1+5), 8(1+7) and 3x3 multi-screen.
9	SEQUENCE, SEQ	Press the **SEQ** key to enter or execute the sequence mode.
10	FUNCTION, Fn	Press the **Fn** key to enter the function mode. Press and hold the key during 3 seconds or more to change Display Mode. Pressing the key again toggles DVR and VGA mode.
11	AUDIO	Press the **AUDIO** key to change the camera audio signal in the multi-screen display mode. The audio channel is rotated from 1 to 4 whenever pressing this key.
12	MUTE	Press the **MUTE** key to set the audio level to the minimum level.
13	COPY	Press the COPY key to enter the Archive setup mode
14	CAMERA NUMBER	Pressing any camera key will cause that camera to display full screen.
15	VOL + (RIGHT)	Press the VOL + (Volume UP) key to increase the volume level in the live screen mode.
	VOL– (LEFT)	Press the VOL– (Volume DOWN) key to decrease the volume level in the live screen mode.

16	⏸, PAUSE	Press the ⏸ key to freeze the video on the screen in the playback mode.
17	■, STOP	Press the ■ key to return to the live screen mode while in the playback mode
18	●, RECORD	Press the ● key to start schedule recording. Pressing the key again toggles stop and start.
19	PTZ	Press the **PTZ** key to enter the PTZ control mode.
20	🔍, SEARCH	Press the 🔍 key to enter Search mode.
21	◀◀, REWIND	Press the ◀◀ key to play video backward at regular speed. Pressing the key again toggles the playback speed between ◀◀, ◀◀◀ and ◀◀◀◀. Pressing the ◀◀ key plays step reverse one frame in the Pause mode.
22	▶, PLAY	Pressing the ▶ key plays video forward at regular speed.
23	▶▶, FAST FORWARD	Press the ▶▶ key to play video forward at high speed. Pressing the key again toggles the playback speed between ▶▶, ▶▶▶ and ▶▶▶▶.
24	USB	Two USB ports are provided to connect external hard disk drives or USB memory stick for archiving video.
25	SPEAKER	Sound from the camera locations or the playback audio can be monitored from the internal speaker.

Arrow Keys

NO	FUNCTION	DESCRIPTION
15	◀, LEFT	Arrow keys are used to move the selection mark to each menu or field. Pressing Up/Down arrow keys in a configuration menu changes the value of a selected item. In addition, the arrow keys can be used to pan or tilt a PTZ camera in the PTZ mode.
	▶, RIGHT	
	▲, UP	
	▼, DOWN	
	↵, ENTER	The ↵ key is used to select a submenu or menu items, or save selections made in menus. Pressing this key while the live monitoring mode displays the system information.

Indicators

NO	FUNCTION	DESCRIPTION
2	POWER LED	The POWER LED lights when the power is on.
3	NETWORK LED	Lights when a remote user is connected to the unit.
4	RECORD LED	Lights when the unit is in the record mode.
5	IR RECEIVER	Receives the signal of the IR transmitter.

Alternate Functions

NO	FUNCTION	DESCRIPTION
6	SET	Press the key to store the preset while in the PTZ mode.
10	RUN	Press the key to recall the preset while in the PTZ mode.
7	IRIS CLOSE	Press the key to control the iris close while in the PTZ mode.
11	IRIS OPEN	press the key to control the iris open while in the PTZ mode.
8	FOCUS FAR	Press the key to control the focus far while in the PTZ mode.
12	FOCUS NEAR	Press the key to control the focus near while in the PTZ mode.
9	ZOOM OUT	Press the key to zoom out the dome camera while in the PTZ mode.
13	ZOOM IN	Press the key to zoom in the dome camera while in the PTZ mode.

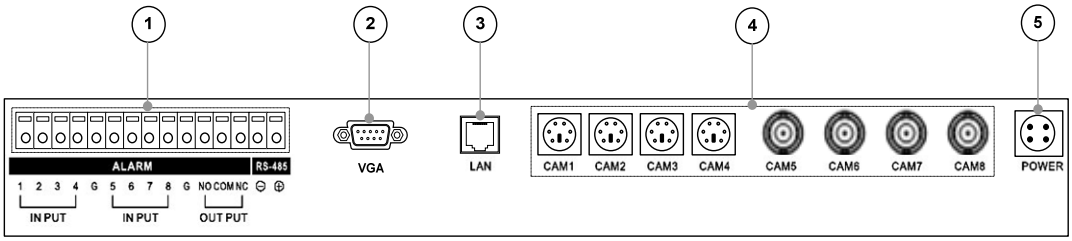
Connecting USB

Two USB ports on the front panel are provided to connect external hard disk, flash drives for video clip copying or system upgrades. A USB mouse (not supplied) can be connected to one of the ports. You can use the mouse to navigate through the screens and menus much like you would on a computer.

Note: Position external drives close enough to the system so that you can make the cable connections, usually less than 6 feet. Use the USB cable provided with the hard disk drive to connect it to the system.

Supports USB 2.0 and up to 480Mbps (compatible with ver. 1.1)

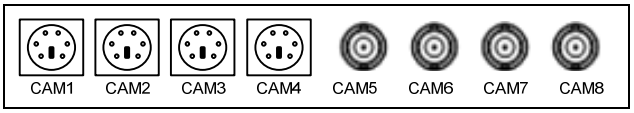
3.3 Rear Panel



The description of each item in the rear panel follows.

NO	NAME	DESCRIPTION
1	ALARM I/O TERMINAL	Connects to an alarm I/O device.
	RS-485	Connects to devices such as a keyboard and a PTZ camera.
2	VGA	Connects to devices such as a PC or Laptop.
3	LAN	A RJ-45 port compatible with 10/100Mbps.
4	CAMERA INPUT	6 Pin DIN Camera Inputs - Channel 1-4 (for cameras with 6 Pin DIN camera outputs), BNC Camera Inputs – Channel 5-8.
5	POWER	Connects to a power adaptor offered from manufacturer.

Connecting Camera Input



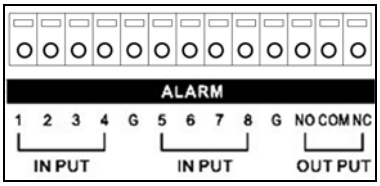
CAM1 ~ CAM4: DIN connectors for video source input.
CAM5 ~ CAM6: BNC connectors for video source input.

Note: You can use DIN to BNC converter supported as an optional cables in CAM1 to CAM4 input.

Connecting Alarm I/O

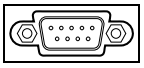
You can use external devices to signal the system to react to events. Mechanical or electrical switches can be wired to INPUT (Alarm Input) and G (Ground) connectors.

The system can also activate external devices such as buzzers or lights. Connect the device to the OUTPUT (Alarm Output) and G (Ground) connectors.



Note: To make connections on the Alarm Connector Strip, press and hold the button and insert the wire in the hole below the button. After releasing the button, tug gently on the wire to make certain it is connected. To disconnect a wire, press and hold the button above the wire and pull out the wire.

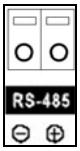
Connecting VGA



Connect a PC (or other devices with a VGA Output) to the Combo System. The Combo System will perform as a Computer Monitor (when in VGA Mode).

Connecting RS485

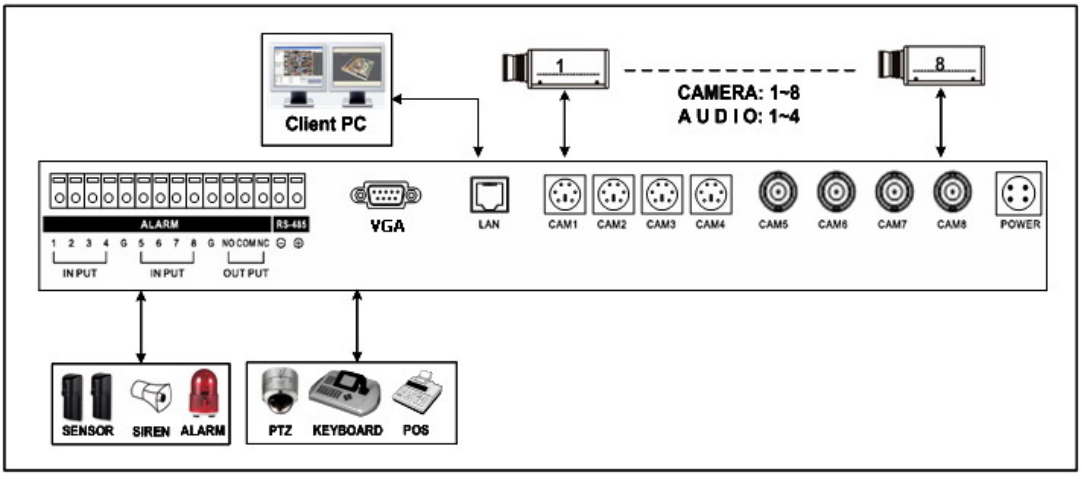
The system can control a PTZ (Pan Tilt, Zoom) camera using a RS-485 half-duplex serial interface. Please refer to “5.8.2 SERIAL” of the Instruction Manual and the operating manual provided by the PTZ camera manufacturer for detailed instructions for RS485 connection. The RS485 connection is equipped with the Push 2 pin connector, and the specification of each pin is described below.



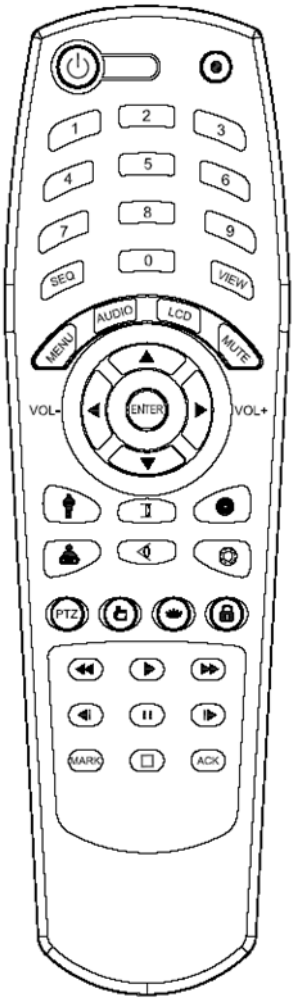
Connecting LAN

The system can be networked using the 10/100Mb Ethernet connector. Connect a Cat5 cable with an RJ-45 jack to the rear connector. The system can be networked with a computer for remote monitoring, searching, configuration and software upgrades.

3.4 System Configuration



3.5 Remote Controller



The meaning of each button of the Remote Controller is as below.

Function Buttons

NO	FUNCTION	DESCRIPTION
1	⏻, POWER	Press the ⏻ button to turn the monitor ON. Press the ⏻ button again to turn the monitor OFF. The power LED illuminates while the power switch is in the ON position. Press and hold the key during 3 seconds or more to shutdown the system.
2	●, RECORD	Press the ● button to start schedule recording. Pressing the button again toggles stop and start.
3	SEQ	Press the **SEQ** button to enter or execute the sequence mode.
4	VIEW	Press the **VIEW** button to display multi-screen. Pressing the button again toggles the screen between Q1 (1, 2, 3, 4), Q2 (5, 6, 7, 8), 6(1+5), 8(1+7) and 3x3 multi-screen.
5	MENU	Press the **MENU** button to enter or exit the programmable setup mode. Press and hold the button during 3 seconds or more to enter the LCD Control Mode.
6	AUDIO	Press the **AUDIO** button to change the camera audio signal in the multi-screen display mode. The audio channel is rotated from 1 to 4 whenever pressing this button.
7	LCD(MODE)	Press the LCD(MODE**)** button to change current display mode. Pressing the button again toggles DVR and VGA mode.
8	MUTE	Press the **MUTE** button to set the audio level to the minimum level.
9	PTZ	Press the **PTZ** button to enter the PTZ control mode.
10	🔒, LOCK	Press the 🔒 button to lock the keys on the front panel or the remote controller from functioning.
11	MARK	Press the **MARK** button to mark the point of the bookmark search in the playback mode.
12	🔍, SEARCH(ACK)	Press the SEARCH (ACK) button to enter the Search mode.

Arrow Keys

NO	FUNCTION	DESCRIPTION
1	▲, UP	Arrow buttons are used to move the selection mark to each menu or field. Pressing Up/Down arrow buttons in a configuration menu changes the value of a selected item. In addition, the arrow buttons can be used to pan or tilt a PTZ camera in the PTZ mode.
2	◄, LEFT	
3	►, RIGHT	
4	▼, DOWN	
5	ENTER	The **ENTER** button is used to select a submenu or menu items, or save selections made in menus. Pressing this button while the live monitoring mode displays the system information.

PTZ Keys

NO	FUNCTION	DESCRIPTION
1	, ZOOM OUT	Press the button to zoom out the dome camera while in the PTZ mode.
2	, ZOOM IN	Press the button to zoom in the dome camera while in the PTZ mode.
3	, FOCUS FAR	Press the button to control the focus far while in the PTZ mode.
4	, FOCUS NEAR	Press the button to control the focus near while in the PTZ mode.

5	, IRIS CLOSE	Press the button to control the iris close while in the PTZ mode.
6	, IRIS OPEN	press the button to control the iris open while in the PTZ mode.
7	, SET	Press the button to store the preset while in the PTZ mode.
8	, RUN	Press the button to recall the preset while in the PTZ mode.

PLAY Keys

NO	FUNCTION	DESCRIPTION
1	, REWIND	Press the button to play video backward at regular speed. Pressing the button again toggles the playback speed between , and .
2	, PLAY	Pressing the button plays video forward at regular speed.
3	, FAST FORWARD	Press the button to play video forward at high speed. Pressing the button again toggles the playback speed between , and .
4	, STEP REVSERSE	Press the button to play step reverse one frame in the Pause mode.
5	, PAUSE	Press the button to freeze the video on the screen while in the playback mode.
6	, STEP FORWARD	Press the button to play step forward one frame in the Pause mode.
7	, STOP	Press the button to return to the live screen mode while in the playback mode

3.6 Multi Function Display

This Combo System contains a multi-function display, which allows the system to function in several modes:

- **Mode 1: Combo DVR Mode** - Displays the Combo DVR with live camera view.
- **Mode 2: VGA Mode** - Displays the device (i.e. a Computer) connected to the VGA Port on the LCD monitor.

Press the Fn key on the front panel during 3 seconds or more, and you can switch to the Monitor to VGA mode from DVR mode. Pressing the key again toggles DVR and VGA mode.

You can also change display mode with Remote Controller. Press the LCD(MODE) button to change display mode in the Remote Controller. Pressing the key again toggles DVR and VGA mode.

NOTE: The Combo System will continue to record while in other modes. This provides an advanced level of Covert Surveillance.

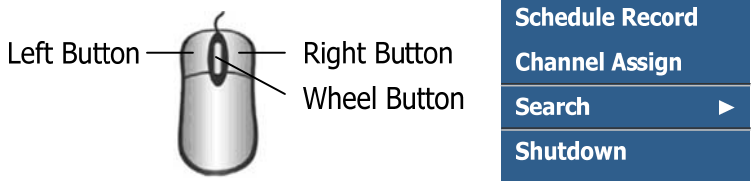
4. Combo DVR Mode

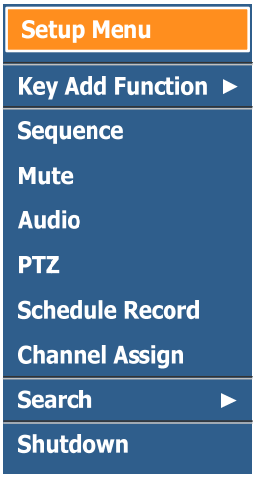
4.1. Mouse Usage & Mouse Menu

Operate in the same way as for a PC. After locating the arrow-like mouse pointer on the screen by moving the mouse, click the left mouse button to select an item when the mouse pointer is on the item. Basic functions include left mouse button click, right mouse button click, and wheel rotation.

When in one of the multi-view formats (e.g., 2x2 or 3x3), clicking the mouse button on a camera image switches that camera to full screen. Clicking the mouse button again returns to the previous multi-view format. In a full screen mode, you can change channel number by rotating the mouse wheel.

Clicking the right mouse button during live monitoring displays the following menu:





Selecting Setup Menu, Key Add Function... and Search is the same as pressing the Fn , SEQ and MENU keys as described in “3.2. Key Function”.

Clicking the right mouse button again during a live menu screen returns to the previous menu screen. In a menu setup mode, you can change a value by rotating the mouse wheel.

Note: You must use a three button mouse for the proper operation.

4.2. Live Monitoring Screen

As soon as the system completes its initialization process, it will begin showing live video on the LCD monitor and playing live audio through the speaker on the front panel. The default mode is to display all cameras at once. Pressing any camera button will cause that camera to display full screen. It displays live video and plays live audio until the user enters another mode.

Pressing the VIEW key on the front panel cycles the system through the different display formats.

The system can be set to display full-screen video for a preset dwell time when an Event occurs. Video from the lowest camera number associated with the event sensor will be displayed, the system will return to the previous screen format after event monitoring dwell time expires. While the event monitoring is activated, the monitoring for all other subsequent events will be ignored. Pressing individual camera buttons or the VIEW key during event monitoring releases the current event monitoring and displays the selected camera or returns to the previous screen format.

Screen Icon

The description of each icon in a live screen and their meanings follow:

: When the system detects alarm events, the Alarm Input icon displays at the top of the screen.

: When the system activates internal speaker, the Audio icon displays at the top of the screen.

: When the system detects motion events, the Motion icon displays at the top of the screen.

: When the remote clients are connected, the Network icon displays at the bottom-right corner of the screen.

: When the camera is set as PTZ camera, the PTZ icon displays at the top of the screen.

: When the system is in the sequence mode, the Sequence icon at the bottom-right corner of the screen.

: When the system detects video-loss events, the Video-Loss icon displays at the top of the screen.

: When the system inactivates internal speaker, the Audio icon displays at the top of the screen.

: When the system is in the recording mode, the Record icon displays at the top-left corner at the screen.

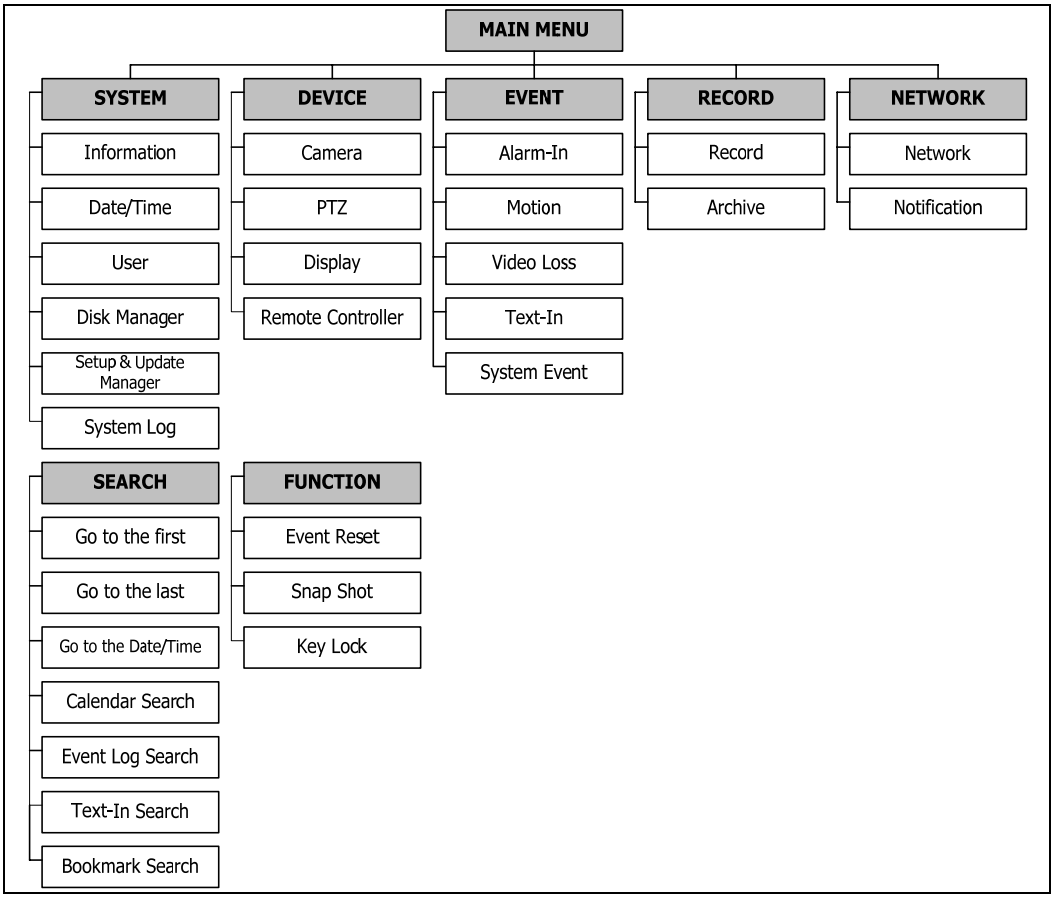
: When the system is in the schedule recording mode and the internal storage is on recording, the Storage icon displays at the bottom-right corner of the screen.

: When the system can't find internal storage or the storage is in fault during recording, this icon displays in the bottom-right of corner at the screen.

: When the system is in the mirroring mode and the mirror device is normal, the mirror icon displays in the bottom-right of corner at the screen.

: When the system can't find the mirror device or the device is in fault during the mirroring, this icon displays in the bottom-right of corner at the screen.

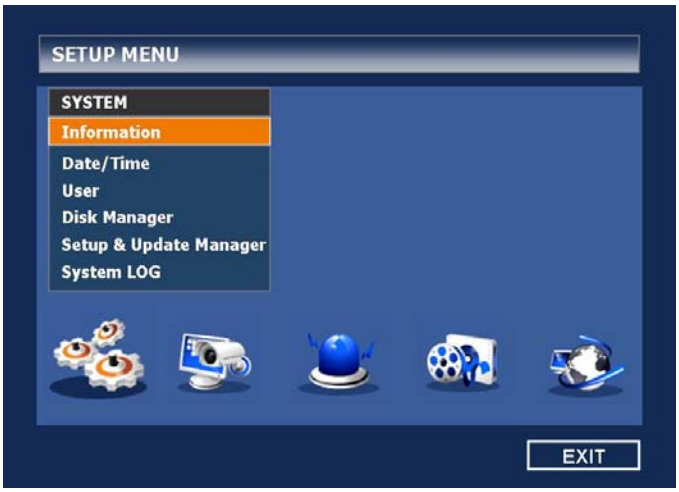
Menu Tree



4.3. Menu Setup

Setup mode allows you to configure major functions of the system. Your system has 8 setup menus and each menu is displayed as an icon. Click the setup menu icon and a submenu will appear for detailed settings.

Pressing the MENU key on the front panel, the slide menu, or the remote controller will display the Setup window.



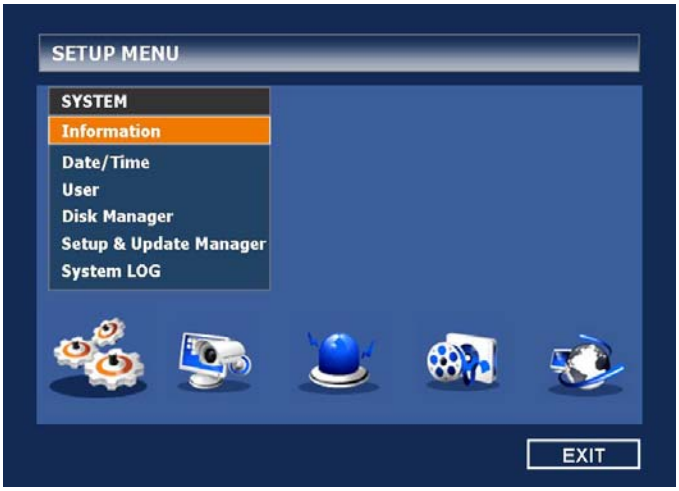
Setup Icon

The setup screen has eight icons representing each menu on the top, and clicking an icon after moving the cursor will display a submenu for detailed settings.

4.3.1 System

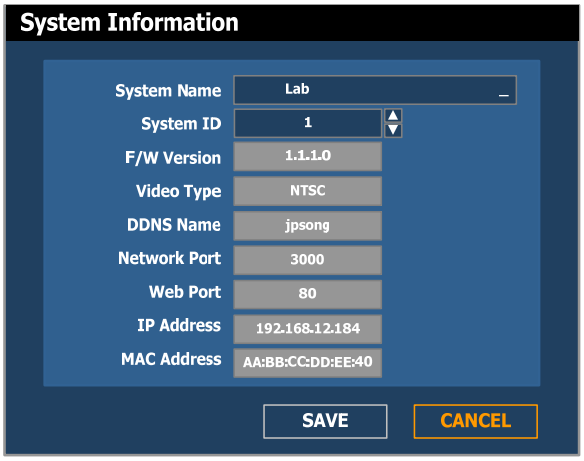
The system menu enables basic configurations for the DVR such as Time/Date, Language, User, Disk Management, Information, Factory Default, S/W Update, System Log and Screen Save.

Select the icon in the main menu window.



4.3.1.1 System Information

Highlight INFORMATION in the system menu Mode and press the ↵ key. The Information screen appears.



In the Information screen, you can see the system name, System ID number and software version number, the video type, and network information.

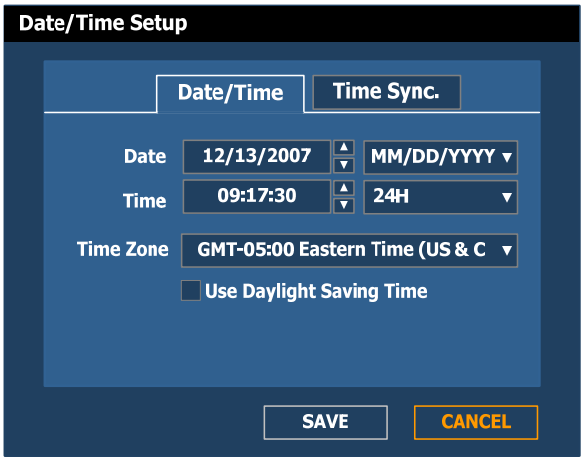
You can name the System Name, assign a System ID number. Highlight the System Name box and press the ↵ key. A virtual keyboard appears that you can use to enter a System Name. Once you have entered your title, highlight OK and press the ↵ key.

Highlight the box beside System ID and press the ↵ key. Change the number by highlighting it and using the Up and Down arrow keys to increase and decrease the number from 0 to 99.

Note: You can also see this page when the SET button on the front panel in the Live Monitoring mode.

4.3.1.2 Date/Time

Highlight Date/Time in the System menu and press the ↵ key. The Date/Time setup screen appears.



This menu enables modification of correct time and date. Highlight the first box beside Date and press the ↵ key. The individual sections of the date will highlight. Use the Up and Down arrow keys to change the number. Use the Left and Right arrow keys to move between month, date and year. Once you have the correct date, press the ↵ key.
The display format for time and date can be changed. Highlight the Format box beside Date and press the ↵ key. Select from the three available date formats and press the ↵ key to save your selected format.

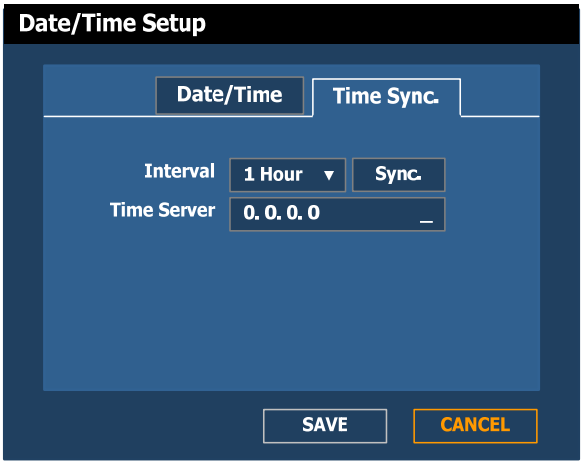
Highlight the box beside Time Zone and press the ↵ key. Select your time zone from the list and press the ↵ key.
Highlight Use Daylight Saving Time and press the ↵ key. Pressing the ↵ key toggles between On and Off.

Note: The Factory default of time zone is “(GMT-05:00) EASTERN TIME (US & CANADA)”.

Highlight the Time Sync tab, and the Time Sync setup screen appears. You can set up time

synchronization between the Combo unit and standard time servers that are available in most time zones and countries.
Highlight the box beside Time Server and press the ↵ key. Change or enter the IP address of a Time Server by highlighting them and using the Up and Down arrow keys to increase or decrease the number value.

Highlight the box beside Interval and press the ↵ key. Set the time interval for synchronization from 30 minutes to 1 day at various time intervals.



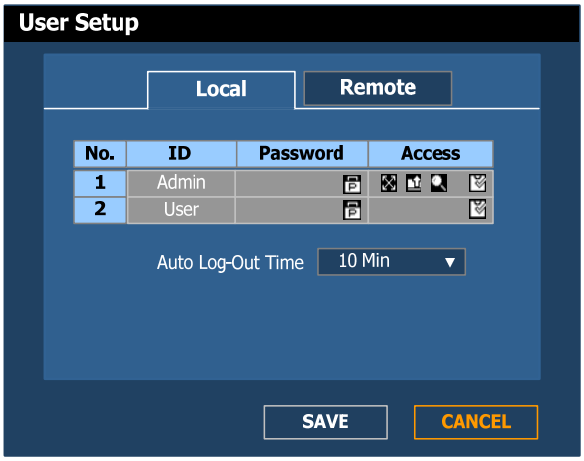
Press the Save key to save your changes and exit the menu. Press the Cancel key to cancel your changes and exit the menu.

Note: You can use the domain name instead of IP address if you already set up the DNS Server when setting network.

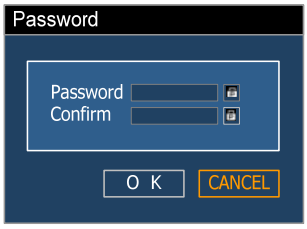
4.3.1.3 User

Select User in the System menu and press the ↵ key. The User setup screen displays the authorized users. You can add and delete and users. When adding a user, you can assign authority levels to the users.

This menu manages one administrator account and user accounts. User and Net User can't enter this page.



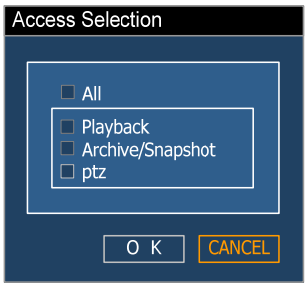
Admin can set ID, password and access rights for a user. When you highlight each password field and press the ↵ key, the Password setup screen will appears.



Maximum of 8 letters can be typed including spaces for an identity and password.

Note: Factory default password is blank.

When you highlight each access field and press the ↵ key, the Access setup screen will appears.



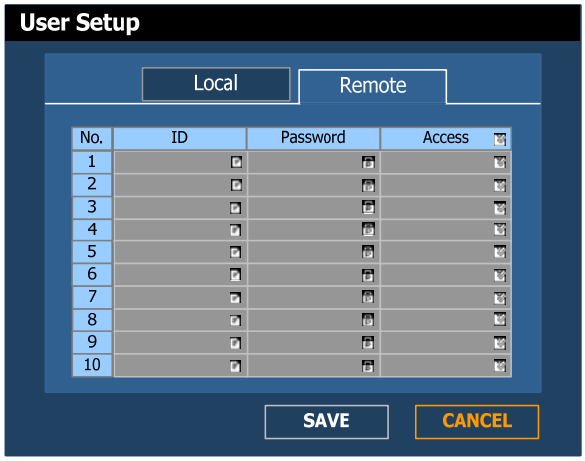
Highlighting the ALL box and pressing the ↵ key will toggle between all authority levels being turned On and Off. Highlighting the individual authority level boxes and pressing the ↵ key will toggle between that authority level being turned On and Off.

In the Access setup screen, each type of authority is described below.

-. Playback: a right to search and play saved videos
-. Snapshot: a right to execute the snapshot in the playback mode
-. PTZ: a right to control the PTZ camera in the live screen mode

Highlighting the box beside Auto Logout allows you to select from a list of times that the user will be automatically logged out.
The options are: Never, 1 min., 3 min., 5 min., 10 min., 15 min., 20 min., 30 min. and 1 hr.

Highlight the Remote tab, and the Remote setup screen appears.



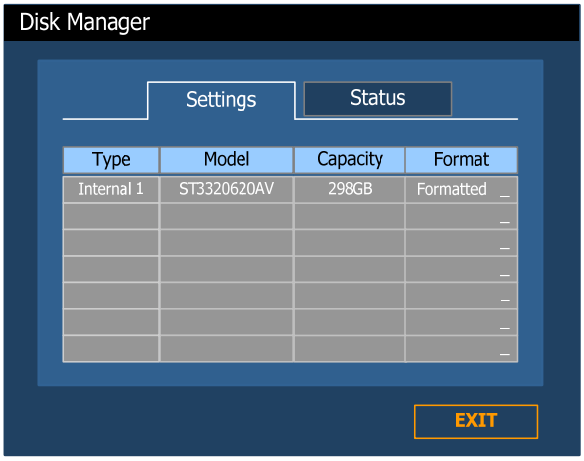
Admin can also set ID for maximum 10 network users. When you highlight each ID field and press the ↵ key, a virtual keyboard will appears to allow you to enter the ID.
Set the Password and Access rights for each network user.

Press the Save button to save your changes and exit the menu.

4.3.1.4 Disk Management

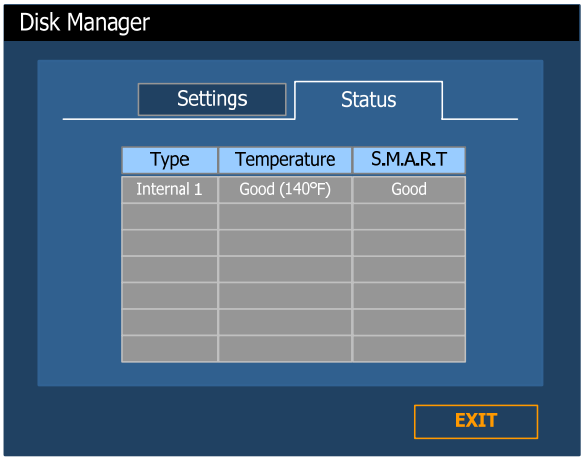
Recorded data is saved in a storage device. The system has basically one internal storage device and can be equipped with up to 2 USB devices. The system informs the user of the name, and basic hardware information of each device to make the management easier.

Highlight Disk Management in the System menu and press the ↵ key. The Disk Manager setup screen appears.



In case of unformatted storage, you can see Unformatted in the Format column. Press the Format column to format storage.

Highlight the Status tab, and the Remote setup screen appears. You can see the status of hard disk connected to the Combo System.



The current temperature of the hard disk will be displayed in the Temperature column. The Temperature column displays Good if the temperature is below the limit and Bad if the

temperature is above the limit.

If an IDE hard disk installed in the system supports S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) monitoring program, the status of the installed IDE hard disk is displayed.

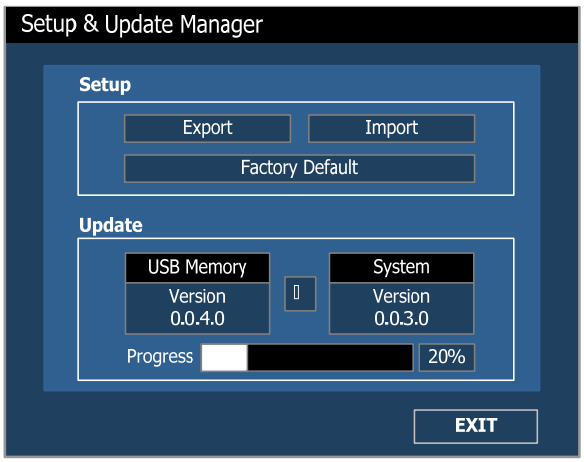
The current status of the Disk S.M.A.R.T. will be displayed in the S.M.A.R.T column. The S.M.A.R.T field displays Good if the Disk S.M.A.R.T. is good and Bad if it is bad.

The Disk Temperature and S.M.A.R.T. status is monitored in real-time.

4.3.1.5 Setup & Update Manager

User can update software with a USB memory stick. To update the software, connect a USB device containing the update package file to the system.

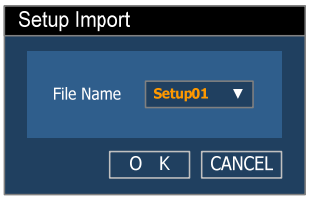
Highlight Update Manager in the system menu and press the ↵ key. The Update Manager screen appears.



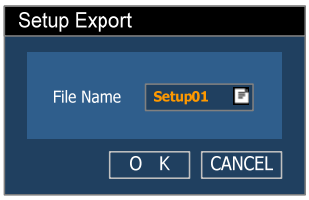
You can import the setup data from a USB memory stick or export current settings to an USB memory. After saving settings by pressing the Export button, you can apply those settings to another device by pressing the Export button.

User can import the setup data from a USB memory stick or export current settings to an USB memory. After saving settings by pressing the Export button, you can apply those settings to another device by pressing the Export button.

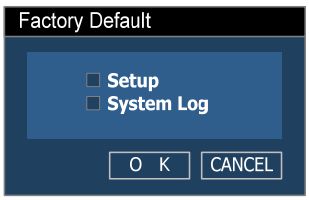
Highlight Setup – Import and press the ↵ key. Select the desired setup file and press the Import button to import the selected settings and change the Combo settings accordingly.



Highlight Setup – Export and press the ↵ key. The Setup Export screen appears. Enter the file name you want to export in the File Name box. A Maximum of 16 letters can be typed for a file name.



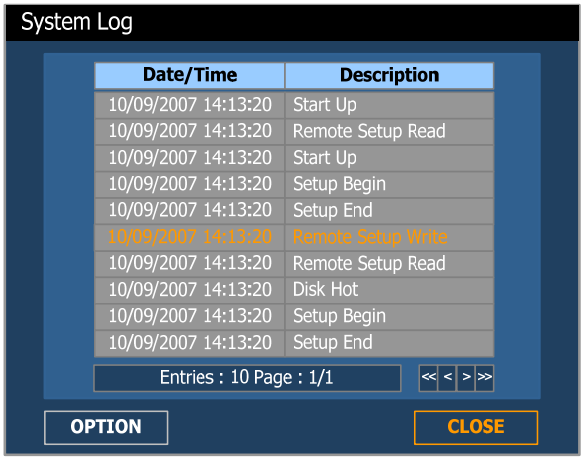
Highlight Setup – Factory Default and press the ↵ key. Factory Default will only be used on the rare occasions that you want to return all the settings to the original factory settings. Highlighting the individual item boxes and pressing the ↵ key will toggle between that individual item being turned On and Off. Highlight OK button and press the ↵ key to do Factory Default.



User can also update system software with a USB memory stick. Insert the USB stick containing the update file and the screen displays software version to be updated in the box beside New. Press the ▸ button to start an update. The system restarts automatically after the update.

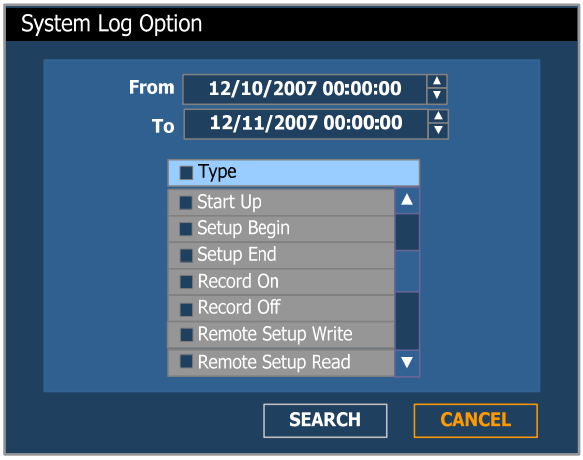
4.3.1.6 System Log

Highlight System Log in the system menu and press the ↵ key. The System Log screen appears.



You can view the system log recorded for each time and date. You can check any abnormality of operation. 10 logs are displayed per page and you can scroll through the log pages by using the Up and Down arrows at the bottom. A maximum entry of 20,000 logs can be recorded. You can see a full message in the bottom of window whenever you select a log in the page. Highlight Close and press the ↵ key to exit the screen.

Highlight OPTION and press the ↵ key to display a system log setup screen.



You can set search options for each event by selecting a system event in the Type section. Highlighting the Type box and pressing the ↵ key will toggle between all item boxes being turned On and Off. Highlighting the individual item boxes and pressing the ↵ key will toggle between that individual item being turned On and Off.

Select or change the period you want to search in the Time Range section.

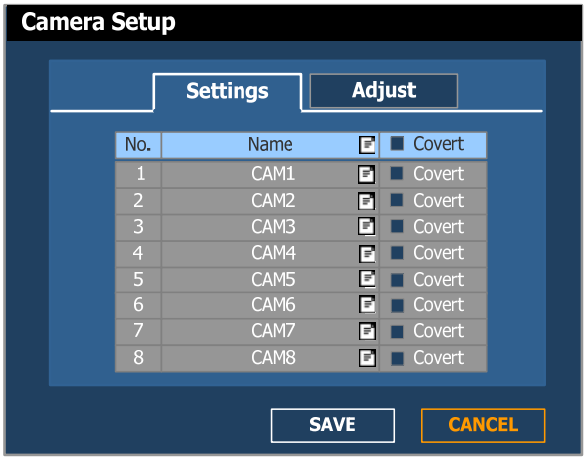
Caution: You will lose all the system log information if you change the main HDD of the system.

4.3.2. Device

This menu allows setting event options such as Camera, PTZ, and Display. Select the icon in the main menu window.

4.3.2.1 Camera

Highlight Camera in the Device menu and press the ↵ key. The Camera setup screen appears. You can configure settings for the input and output of the system.



You can change the Title of each camera using the virtual keyboard and a maximum of 8 letters can be typed for a camera name. You can also determine which cameras will display on the monitors by selecting each check box in the Covert column.

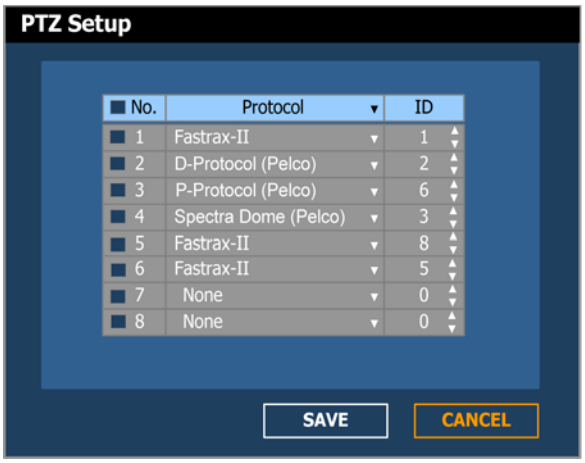
Note: If the Covert is enabled, the corresponding camera and OSD will not be displayed on the live monitoring and playback screen.

Highlight the Adjust tab and the Adjust setup screen appears.

You can configure the brightness, contrast, hue, and saturation for each camera. Highlight Reset and press ↵ key to set the value of color to the factory default. Highlight Apply All and press ↵ key to apply your settings to all channels. Highlight Close and press the ↵ key to save your settings and exit the screen.

4.3.2.2 PTZ

Highlight PTZ in the Device menu and press the ↵ key. The PTZ setup screen appears. This menu enables PTZ-camera-related configurations such as controlling the direction, zoom, and iris.



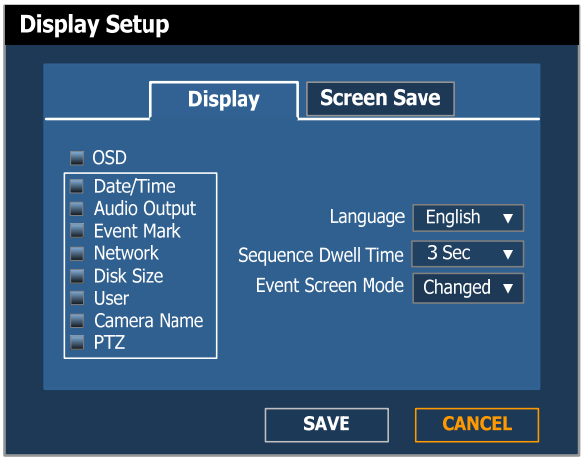
Highlight the box in the No column for the PTZ camera you wish to configure and press the ↵ key. A list of PTZ devices appears. Select your camera from the list and press the ↵ key. You will need to connect the camera to the RS485 connector on the back of the Combo unit.
You can assign IDs to each camera by highlighting the box under the ID heading and

pressing the ↵ key. Change the number by highlighting it and using the Up and Down arrow keys to increase and decrease the number. The PTZ ID number can be set from 0 to 256.

Note: Refer to “4.4.3. PTZ Control” for the detailed operation.

4.3.2.3 Display

Highlight Display in the Device menu and press the ↵ key. The Display screen appears. The Display screen allows you to select what information will be displayed on the monitor.



Highlighting the OSD box and pressing the ↵ key will toggle between all item boxes being turned On and Off. Highlighting an item and pressing the ↵ key toggles that item On and Off. When an item is On, there is a checkmark in the box beside it.

The following items can be turned On or Off:
- Date/Time - Displays time and date.
- Audio Output - Displays an icon, when the camera is set as an audio output.
- Event Mark - Displays an icon, when an alarm event occurs for an event-linked camera.
- Network - Displays an icon, when a remote client is connected.
- Disk Size - Displays internal storage usage as an icon.
- User - Displays the ID logged in.
- Camera Name - Displays the camera title.
- PTZ - Displays an icon, when the camera is set as a PTZ

Highlight the box beside Language and press ↵ key. A drop-down menu displays the available languages. Highlight the desired language and press the ↵ key.

You can set the dwell time for the sequence. A sequence causes the system to sequence cameras, and the system can sequence cameras. The system sequences through the cameras and displays them full screen.

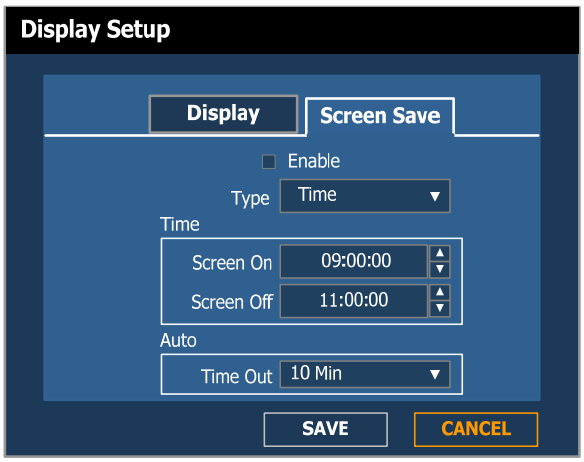
You can adjust the display dwell time and dwell intervals is ranging from 1 second to 99 seconds. Highlight the box beside Dwell Time and press ↵ key. A drop-down menu displays the available items. Highlight the desired time and press the ↵ key.

Note: Press the SEQ key on the front panel to execute the sequence in the live monitoring screen.

Highlight the box beside Mode in the Event Screen section and press ↵ key. A drop-down menu displays the available modes. Highlight the desired mode and press the ↵ key.

When an event occurs in the live screen mode, the screen is changed to the corresponding channel automatically and all the event screens are displayed. When the event ends after the event hold time, the screen is returned to the live monitoring screen. Select Changed mode to enable the event screen function.

Highlight the Screen Save tab and the Screen Save setup screen appears.



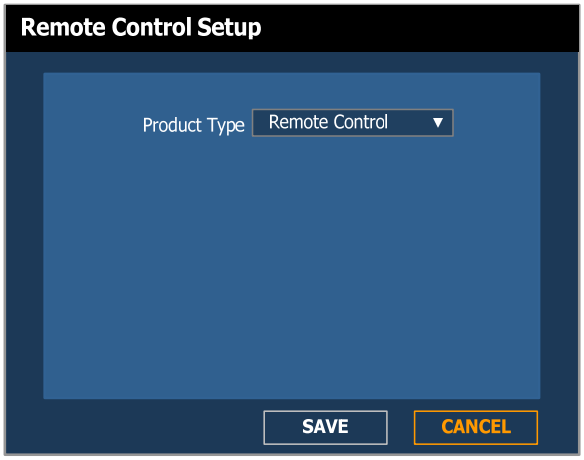
Screen Power Saving On or Screen Power Saving Off. The factory default is Screen Power Saving Off. It controls the power of screen automatically according to the value in the Type box. Time causes the system to turn on the power of screen once the time is same as the value in the Screen On Time and turn off the power of screen once the time is same as the value in the Screen Off Time.

Note: In case of Time type, you can turn on the power of screen by pressing the POWER key on the front panel while the Screen Save mode.

Auto type causes it to turn off the power of screen once there isn't any user operation in the system for Timeout. The options are: 1 Min, 5 Min, 10 Min, 30 Min, and 1 Hour.
In case of Auto type, the system turns on the power of screen by detecting any user operation while the power saving mode.

4.3.2.4 Remote Control

Highlight Remote Control in the Device menu and press the ↵ key. The Remote Control setup screen appears.



If the RS232 port and RS485 port are in use for PTZ control, networking or text input, the remote keyboard cannot be configured.

Highlight the box beside Product Type and select the device from the list.

Note: For a proper operation, you must setup the correct Baud Rate, Parity, Data Bits and Stop Bits for the device you are connecting to the Combo System.

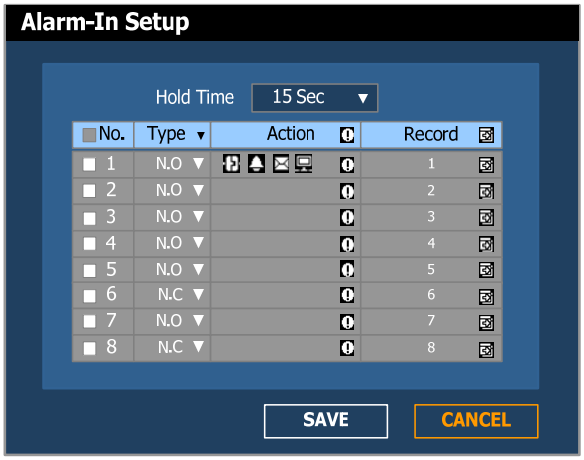
4.3.3. Event

This menu allows setting event options such as Alarm-In, Motion, Video Loss, Text-in, System Event, and Action. Select the icon in the main menu window.

The system starts recording with settings configured here when an event occurs. The types of event include External Alarm, Motion Detection, Video Loss, Text-in and System Event. An occurred event can be notified by Alarm Output (1 Channel), Buzzer, Calling, Email, and Callback.

4.3.3.1 Alarm-In

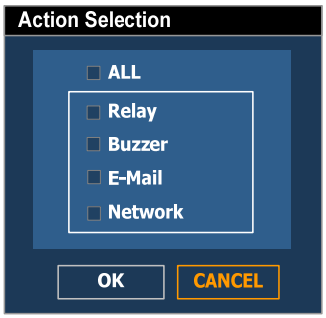
Highlight Alarm-In in the Event menu and press the ↵ key. The Alarm-In setup screen appears. You can configure settings for the alarm input.



Set the hold time an event lasts for the specified hold time from the point of detection of an alarm input. Highlight the box beside Hold Time and press the ↵ key. Select an item from the list and press the ↵ key.
Highlighting the No box and pressing the ↵ key will toggle between all item boxes being turned On and Off. When an item is On, there is a checkmark in the box beside it.

You can activate an alarm event by marking checkbox beside event number. The system can make an event occur by detecting each channel's signals coming from alarm devices connected to the alarm input connector. Set the correct polarity in the Type column so that an event lasts for the specified hold time from the point of the event occurrence.

You can set the actions the system will take whenever it senses an input on one of its alarm input connectors. Highlight a box in the Action column and press the ↵ key. Action screen appears.

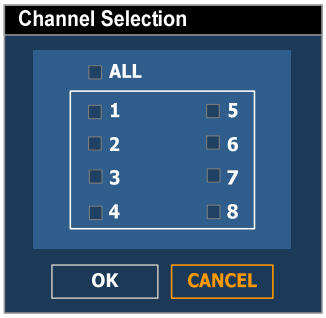


Note: You can send event information to a specified e-mail address at the time of event occurrence if you select E-Mail in the Action screen.

Note: You can send event information to a specified remote client at the time of event occurrence if you select Network in the Action screen.

Note: For a proper operation of E-Mail and Network, the settings for E-Mail and LAN in Notification of the Network menu should be configured.

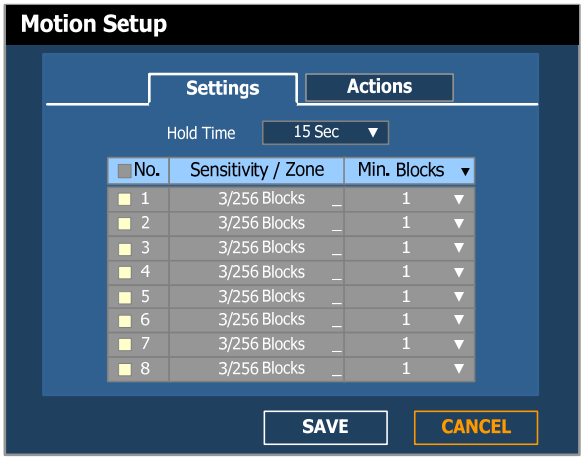
You can select the cameras that you want the system to record whenever it detects an input on the associated alarm input. Highlight a box in the Record column and press the ↵ key. Record screen appears.



Select record channel and press OK button.

4.3.3.2 Motion Detection

The Combo unit has built-in video motion detection. Video motion detection can be turned ON or OFF for each camera. Highlight Motion in the Event menu and press the ↵ key. The Motion setup screen appears.



Set the hold time an event lasts for the specified hold time from the point of detection of a motion change.

You can activate a motion event by marking checkbox beside event number. A rate of motion of video signal can be processed as an event.

Highlight a box in the Zone column and press the ↵ key. Zone setup screen appears and it is laid over the video for the selected camera. You can set up motion detection zones by selecting or clearing blocks. The area of camera sight is divided into 16 blocks horizontally and 16 blocks vertically.

Highlighting the Sensitivity box and pressing the ↵ key allows you to adjust the Combo's sensitivity to motion. There are five settings with 1 being the least sensitive and 8 being the most sensitive.
Highlighting Grid and pressing the ↵ key allows you to display video with a grid overlaid.

Highlighting Set All and pressing the ↵ key allows you to select the entire blocks.

Highlighting Clear All and pressing the ↵ key allows you to unselect all the selected blocks. An unselected block is displayed in pink during the zone setup.

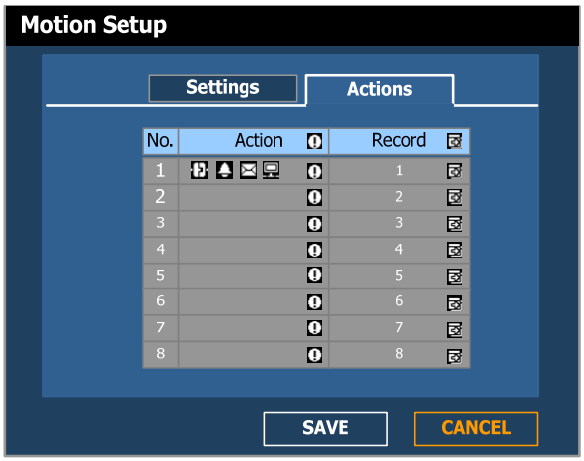
Highlighting Inverse and pressing the ↵ key allows you to unselect selected blocks and select previously unselected blocks.

Highlighting Test and pressing the ↵ key allows you to observe how the Combo is reacting to motion. When in the motion viewing mode, the detection zone of video will be displayed. Any detected motion within the zone will be displayed in green.

Note: Pressing Grid and Test again toggles each function between on and off.

You can adjust the minimum number of detection blocks that must be activated to trigger a motion alarm. Highlighting the Min. Blocks box pressing the ↵ key allow you to adjust the minimum number of detection blocks. Smaller numbers provide greater sensitivity because fewer detection blocks must be activated.

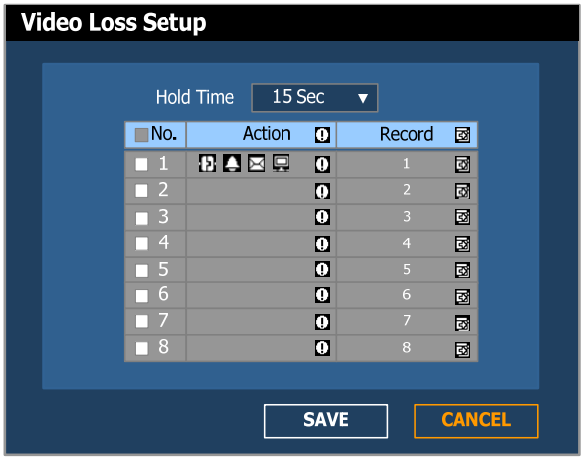
Highlight the Action tab and the Action setup screen appears.



Set the Action and Record column and press Save button to save your changes and exit Motion setup screen.

4.3.3.3 Video Loss

Highlight Video Loss in the Event menu and press the ↵ key. The Video Loss setup screen appears.



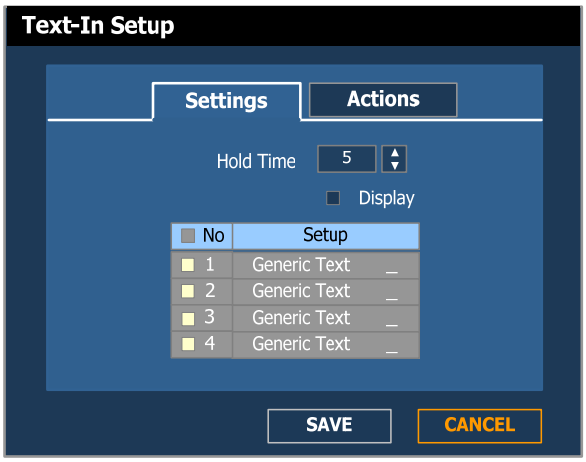
Set the hold time so that an event lasts for the specified hold time from the point of the event occurrence.

You can activate a video loss event by marking checkbox beside event number. When there is a channel with no input signal from a video input connector, it can be processed as an event.
Set the Action and Record column and press Save button to save your changes and exit Motion setup screen.

4.3.3.4 Text-In

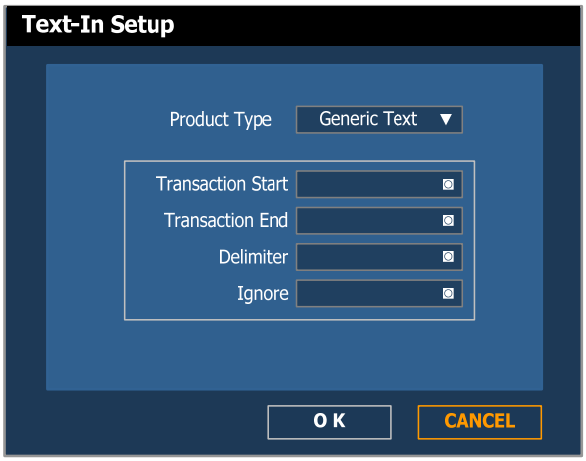
Highlight Text-In in the Event menu and press the ↵ key. The Text-In setup screen appears.

This menu enables the system to process a text-in input of text such as a POS (Point of Sale; i.e., cash registers) device as an event. This screen allows you to configure the LCD Combo for each text-in device.



You can activate a text-in event by marking individual checkbox in the No column. Checking the Display checkbox causes the Combo to overlay text-in data on the live monitoring screen.

Highlight the box under the Setup heading, and press the ↵ button to select your device.



Highlight the box beside Text-In Product, and press the ↵ button. Select your device from the list.

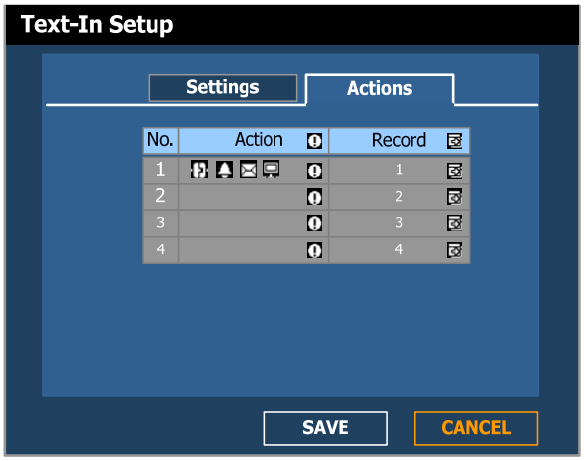
NOTE: The following description is for a Generic Text Device. The screen changes for different types of text input devices, and there will be different parameter boxes for you to enter information.

Highlight the box beside Start in the Transaction section, and press the ↵ key. Use the virtual keyboard to enter the Transaction Start string. Refer to the device manufacturer's documentation for the text string that the device first sends when a transaction starts.
If you want the Combo to react to any character sent from the text input device, left Start box a blank.
Highlight the box beside Transaction End, and press the ↵ key. Use the virtual keyboard to enter the Transaction End string. Refer to the device manufacturer's documentation for the text string that the device sends when a transaction ends.
The Combo considers an input of the text type in the End box as a termination of a transaction.

Highlight the box beside Line Delimiter, and press the ↵ key. Use the virtual keyboard to enter the character(s) that the device uses to indicate the end of a line.
A set of characters which will determine the end of a line can be typed in the Delimiter box. If nothing is typed, "Carriage Return + Line Feed" replaces it.

A set of characters to be excluded from the transaction record can be typed in the Ignore box. Highlight the box beside Ignore, and press the ↵ key. Use the virtual keyboard to enter any strings of text that you want the Combo to ignore. Refer to the device manufacturer's documentation for text strings that the device sends during transactions, so

you will know which ones you do not want recorded.
Highlight the Action tab and the Action setup screen appears.



Set the Action and Record column.

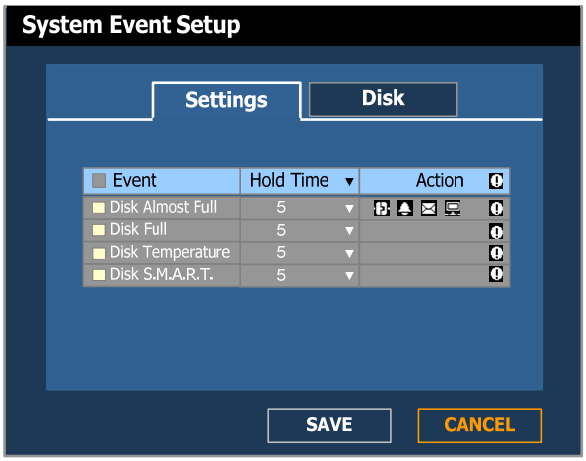
NOTE: You can use the POS device and expand to maximum 4 devices with the RS232, RS485 or USB-Serial ports. In case of the 8 BNC model, you can't use RS232 port.

NOTE: When using the USB to serial text-in device, do NOT remove the USB cable from the port while the system is running.

4.3.3.5 System Event

Highlight System Event in the Event menu and press the ↵ key. The System Event setup screen appears. The Disk Almost Full, Disk Full, Disk Temperature and S.M.A.R.T. in the System Event are supported.

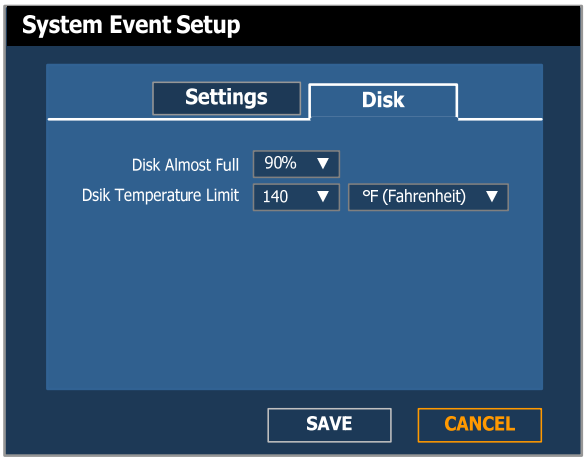
This menu makes the system process any abnormality of the system as an event by carrying out regular checkups. The types of system operation that can be used as an event include DISK Temperature and S.M.A.R.T.



Highlight the box under the Event heading, and press the ↵ button. That activate the System Event and the Combo System will trigger an alert whenever it detects the defined event.

Set the Hold Time and Action column and press SAVE button to save your changes and exit Motion setup screen.

Highlight the Disk tab and the Disk setup screen appears.



Overwrite in the Combo System cause it to overwrite older recordings when the hard disk is full. (Overwrite, Stop). The factory default is Overwrite. Setting the Combo System to Stop causes it to stop recording once the hard disk is full.

In case of No Overwrite, You can set Disk Full Action once the hard disk is full. Set the percentage of used disk space at which the disk full warning message is displayed when the record mode is Stop. (OFF, 80% - 99%)

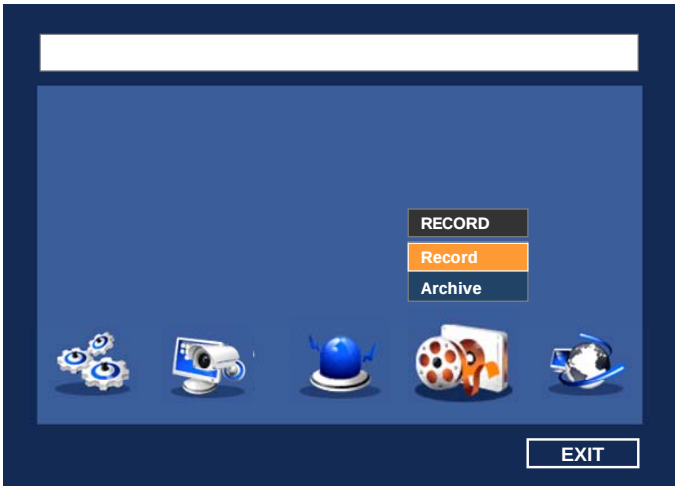
You can set the Disk Temperature, and the Combo will trigger an alert whenever it exceeds the defined threshold temperature. Select either ºC (Celsius) or ºF (Fahrenheit), and press the ↵ key.

The Disk Temperature and S.M.A.R.T. status is monitored in real-time.

4.3.4. Record

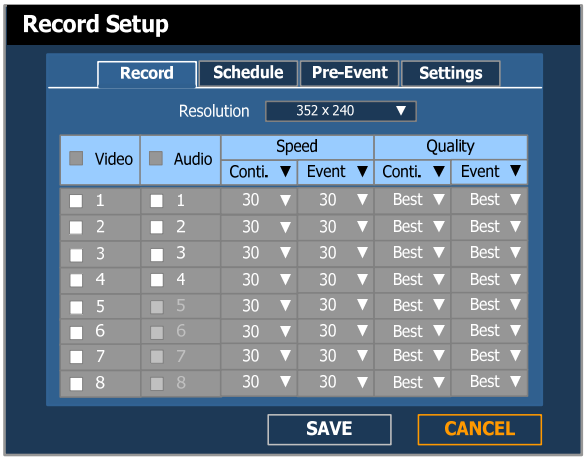
This menu allows setting recording attribute such as Resolution, Speed, Quality, and Schedule. As a setup for the main function of the system, each menu should be fully understood for appropriate operation.

Select the icon in the main menu window.



Record

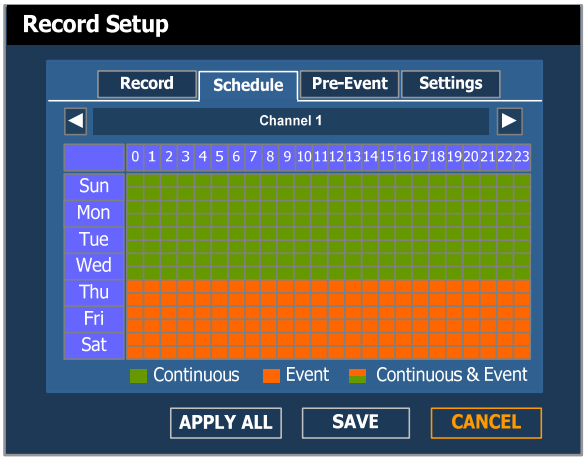
Highlight Record in the Record menu and press the ↵ key. The Record setup screen appears.



Set the audio and video synchronization, speed, quality and resolution of recording for each camera. . Resolution indicates size of the recorded images and there are three levels of 704 x 576, 704 x 288, and 352 x 288. Speed indicates the recording speed and a limit is from 1 to 25 regardless of resolution. Quality indicates the recording quality and the three levels are Best, Normal, and Low.

Schedule

Highlight the Disk tab in the Record menu and the Disk setup screen appears.
Set a weekly recording schedule for each channel. A combination of a schedule and an event is possible.



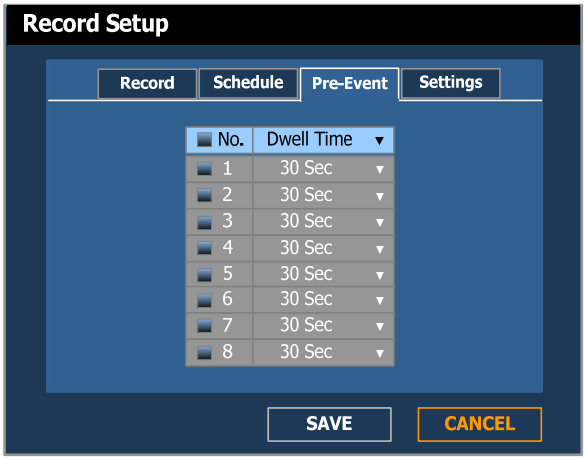
Highlight the upper-most cell of the left-most column or a name of the day of the week and press the ↵ key to set a schedule for the entire week or a whole day, respectively. Schedule (Green), Event (Orange), Schedule & Event (Green & Orange) will be displayed alternatively. Highlight a box press the ↵ key to set recording settings for the corresponding day.

In case of using a mouse, drag or click area by a box unit at first. Then, set recording settings for the corresponding day. You can change setting value by using a mouse wheel.
Highlight Apply All and press the ↵ key to apply the same settings to all channels.
Highlight Save and press the ↵ key to save your changes and exit the schedule setup screen.

Pre-Event

Highlight the Pre-Event tab in the Record menu and the Pre-Event setup screen appears.

When the system is in the Event Record mode it is possible to have it record images before the event occurs. The Pre-Event screen allows you to define how to handle pre-event recording.



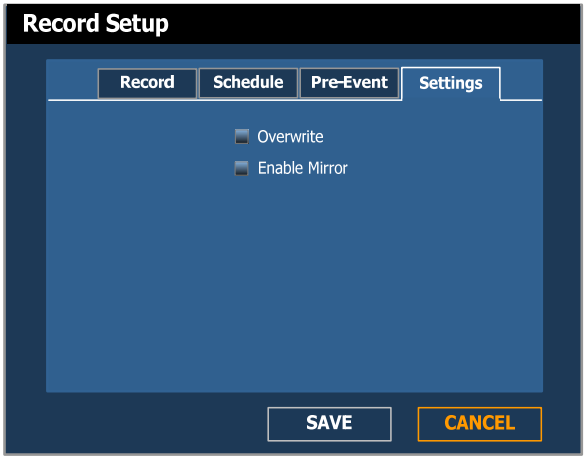
Activate pre-event recording by marking checkbox beside Enable.

You can turn individual channels On or Off for pre-event recording and set the amount of time to record prior to the event by adjusting the Dwell. The Dwell Time can be set from 5 to 30 seconds regardless of resolution.

Note: When the system is in the Time or Time & Event mode, it ignores the pre-event settings and follows the time settings.

Settings

Highlight the Settings tab in the Record menu and the Settings setup screen appears.



Overwrite in the Record Mode field cause the system to overwrite older recordings when the hard disk is full. (Overwrite, Stop). The factory default is Overwrite. Setting the system to Stop causes it to stop recording once the hard disk is full.

You can activate Mirror by marking checkbox beside.

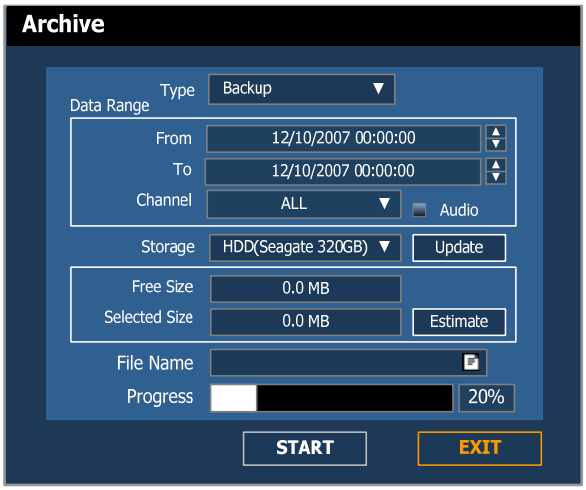
Note: A Mirror means the system record a video and copy it to the external disk at the same time. For a proper operation, the capacity of an external disk should be bigger than or equal to the one of the internal hard disk.

Caution: If you disconnect the USB cable connected to the USB port or the power from the USB device while mirroring, the system display a warning message and execute an e-mail notification.

Caution: Do NOT disconnect the USB Cable or the power from the device while Mirror. If the USB cable is disconnected while mirroring, mirrored data might be lost.

4.3.5 Archive

Highlight Archive in the Record menu and press the ↵ key. The Archive setup screen appears. You can change configurations for the control of all archive devices and for the archive of recorded data in this menu.



Highlight the Type box and press the ↵ key. You can select Backup or Clip-Copy in the list. Selecting Backup allow manual backup of selected range by setting the time and date. Clip-Copy allows clip copy of selected clips.
The Combo unit supports the USB HDD for backup device and an USB DVD-RW, USB CD-RW and an USB Memory Stick for clip-copying device.

The total capacity and available space of an archive device connected to the Combo unit is displayed in the Storage box.

Change the Days and Time Range, the Channel you want to archive and press the Estimate button to calculate the size of the data to be archived. The size is displayed in the File Size box. Highlight the box beside File Name, and press the ↵ key. Use the virtual keyboard to enter the name of the file to be archived.

Highlight the Start button and press the ↵ key to start archive. The progress bar will be displayed in the Progress box.

Highlight the Update button and press the ↵ key to renew the storage information of the device. In case that there is no device for an archive in the Combo unit, the Update and Start button will be inactivated.

Note: Please check with your installer about purchasing and installing an archive device.

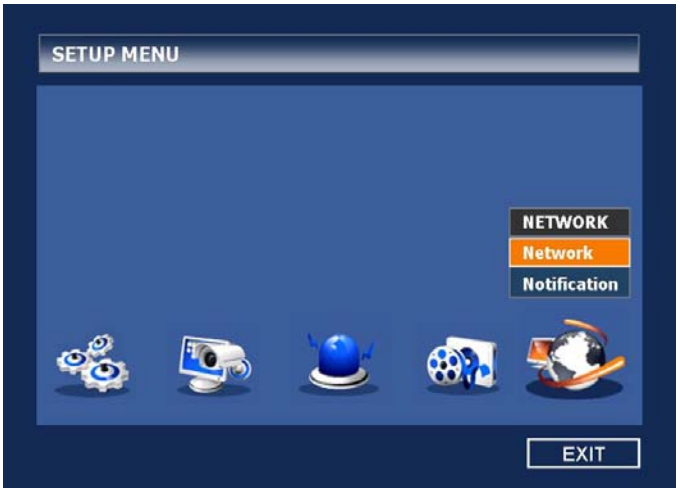
Note: The maximum data size to be copied for Clip-Copy is limited to 2GB and the copied clip data can be played by Clip Player in the windows PC.

Note: You can enter Archive setting menu directly in the Live monitoring mode by pressing the Copy key in the front panel.

Caution: Removing a connected backup device during the backup process may result in serious damage to the system.

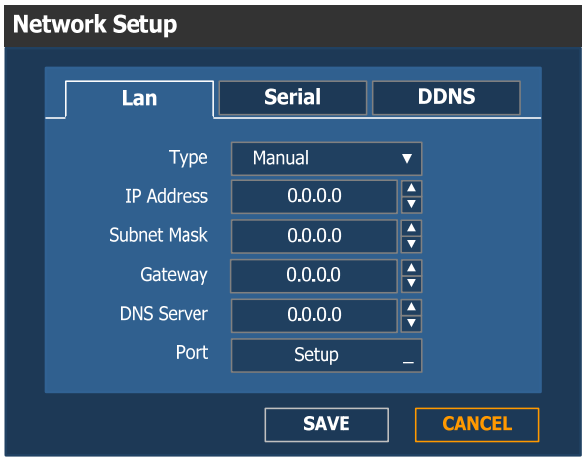
4.3.6. Network

You can configure settings for TCP/IP, the serial communication, and DDNS. Select the icon in the main menu window.



4.3.6.1 Network

Highlight Network in the Network menu and press the ↵ key. The Network setup screen appears.



Lan

Highlight the Type box and press the ↵ key. You can select Manual or DHCP in the list.

You can set the information related to TCP/IP. Selecting the DHCP in the Type box will deactivate TCI/IP-related information below.
Note: You'll need to get the IP Address or Netmask, Gateway from your network administrator.

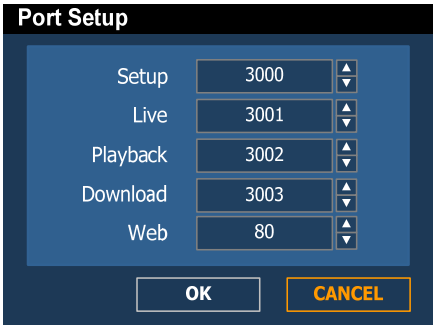
Change the numbers by highlighting them and using the Up and Down arrow buttons to increase or decrease the number.

The factory default LAN settings are:

IP Address:	192.168.12.172
Gateway:	192.168.12.173
Subnet Mask:	255.255.255.0

Highlight the box beside DNS Server. Press the Up and Down arrow buttons to set the IP address of the DNS server. You can use the domain name instead of IP address when you set up the address of Time Server or DDNS Server if you set up the DNS Server.

Highlight the Port Number box and press the ↵ key. The Port Number Setup screen appears.



This menu allow configuration of port numbers for IRMS Client Setup, IRMS Client Live, IRMS Client Playback, IRMS Client Download and Web Browser.

The factory default Port settings are:

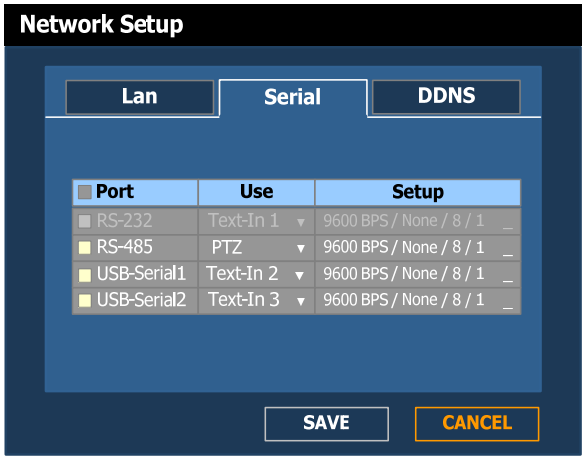
Setup:	3000
Live:	3001
Playback:	3002
Download:	3003
Web:	80

Note: When using a firewall, you need to change the port numbers to those allowed by the firewall.

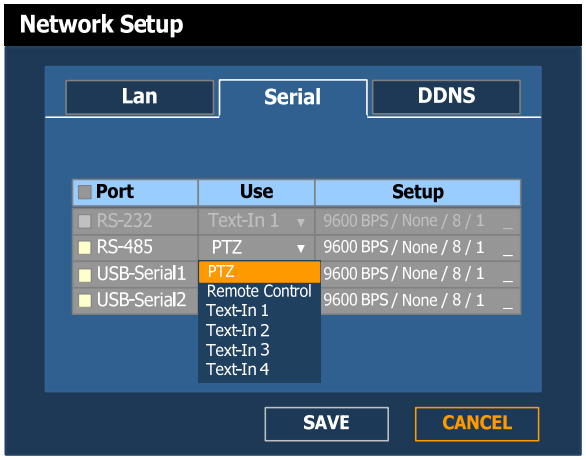
Serial

Highlight the Serial tab in the Network setup menu and the Serial setup screen appears.

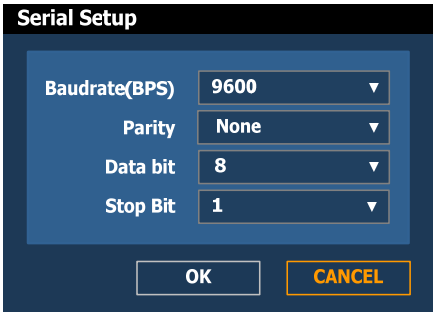
This menu allows configuration of the serial communication to control devices such as a PTZ, keyboard and POS device.



You can activate a serial port by marking individual checkbox in the Port column.
Highlight the box under the Use heading, and press the ↵ key to select serial device.
You can select one device of PTZ, Remote Control, and Text-In in the list.



Highlight the box under the Setup heading, and press the ↵ key to configure setup settings.

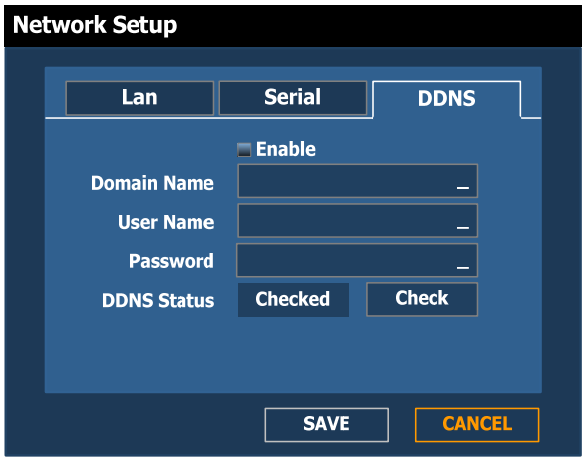


Setup correct settings for the Baud rate, Parity, Data bit, and Stop Bit respectively.

NOTE: In case of 8 BNC model, RS-232 port do not supported.

DDNS (Dynamic Domain Name Server)

Highlight the DDNS tab in the Network setup menu and the DDNS setup screen appears.



You can activate the DDNS by marking checkbox beside Enable. It causes the system to connect to DDNS server. If you don't enable the DDNS, there is no service.

Enter the Domain Name, User Name and Password information received in email during the DDNS setup process at http://www.dyndns.com

Highlight the box beside Domain Name and press the ↵ key. Use the virtual keyboard to enter the domain name string.
Highlight the box beside User Name and press the ↵ key. Use the virtual keyboard to enter the user name string.
Highlight the box beside Password and press the ↵ key. Use the virtual keyboard to enter the password string.

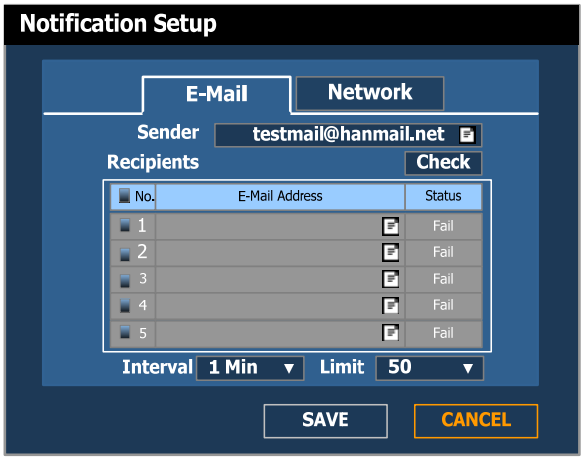
For example, "peter.dyndns.org" user will enter only **peter** in the Domain Name box. ".dyndns.org" will be included internally. You can use up to 30 characters.
Highlight the Check button and press the ↵ key. to test the DDNS connection. If the connection is OK, the Status box displays Good, when the connection is failed, the Status box displays Fail.

Note: The DDNS makes the system to support Dynamic IP addresses for remote connection. When this feature is On, you can access your system remotely using the user name instead of IP address. For the DDNS feature, the system should be registered on the DDNS server.

Caution: You must restart the system to apply new setup about the DDNS.

4.3.6.2 Notification

Highlight Notification in the Network menu and press the ↵ key. The Notification setup screen appears.



The Combo unit can be set up to send an email or to contact a computer running IRMS (Intelligent Remote Monitoring System) when an event occurs.

Mail

This menu allows sending of an email to a designated address when an event occurs. Configure correct settings of Sender and Recipients.

Highlight the box beside Sender and press the ↵ key. Use the virtual keyboard to enter the e-mail address of sender.

Highlight the box beside Recipient and press the ↵ key. The Recipient setup screen appears. You can turn individual channels On or Off for e-mail notification. You can also register the e-mail address of recipients up to 5. Highlight the box beside Check and press the ↵ key to test the e-mail setup. The system displays the status result of connection test for each e-mail address in the Status column.

Note: A correct address for both Sender and Recipient must be configured. The e-mail address must include the “@” character to be a valid address. You can use up to 40 characters including spaces.

Highlight Exit and press the ↵ key to exit the Recipient setup screen.

Information about the time of event occurrence is sent along with the title and event content when an event occurs.

For example, if a motion event occurs, an e-mail as below will be sent.

Subject: Event Notification, 2006/11/03 00:00:00
Contents:

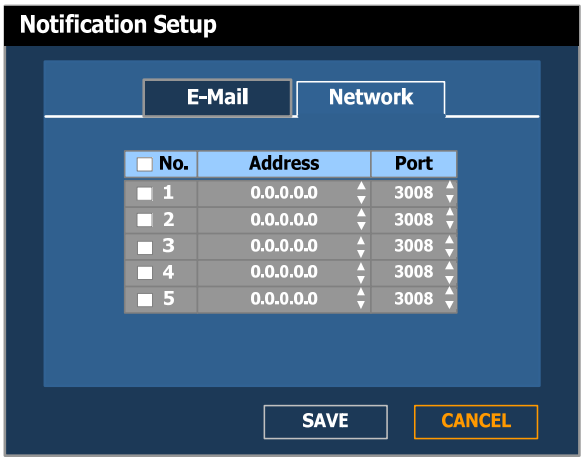
2006/08/22 09:32:07 PM Motion 3
==========
System ID : 0
System Name : Pizza Inn
==========

Web Viewer: http://192.168.12.188

The Interval in the Notification setup screen represents the frequency of the e-mail notification when an event occurs. The Limit shows the maximum number of emails sent within each interval.

Network

Highlight the LAN tab in the Network setup menu and the LAN notification setup screen appears.



Highlight the IP Address box that you want to change and press the ↵ button. Enter the IP address of the computer you want contacted during an event. You can enter up to five IP addresses.

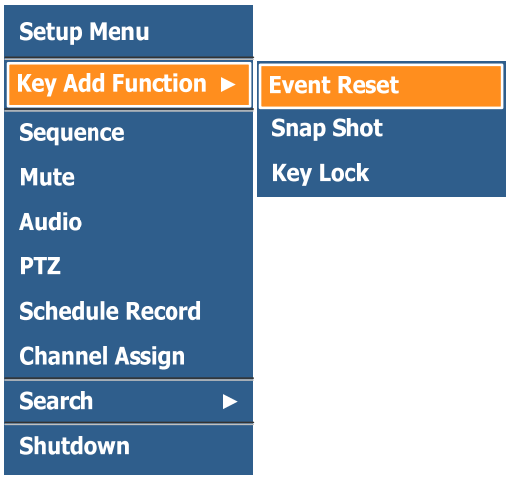
This menu allow configuration of port numbers for IRMS Client Setup, IRMS Client Live, IRMS Client Playback, Web Browser, and IRMS Client Download.

Highlight the box in the Port column and press the ↵ key. Use the arrow buttons to enter the Notification port number obtained from your system administrator. The default port number is 3008.

4.4. Additional Key Function

4.4.1 Key Add Function

Pressing the Fn key on the front panel or selecting Key Add Function from the Mouse Menu will display the key add function screen.



Event Reset

Selecting “EVENT RESET” in the function screen causes the system to reset both the Alarm Output signal and the internal buzzer. This function is same as the one of the ACK key on the front panel.

Snapshot

You can capture and save a still cut in the pause mode during the playback. First, insert the USB memory stick to the USB port in the front panel. Then, play a video and set screen mode to full screen for the channel you want to capture. After that, press the pause button in the capture position of video. Finally, Select Snapshot in Key Add Function menu to capture and save a still cut.

This function is inactivated in the live monitoring mode or multi-screen playback mode.

Note: You can see a captured file in the clip player only.

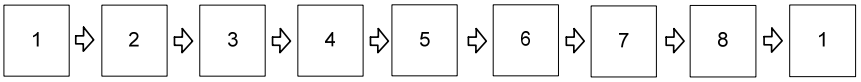
Key Lock

Selecting “Key Lock” in the function screen causes the system to lock the buttons on the front panel from functioning.

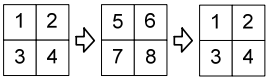
4.4.2. Sequence Control

Pressing the SEQ key in the live screen mode or selecting Sequence from the Mouse Menu causes the system to display live channels sequentially.
In the full screen mode, the system sequences through the cameras and displays them full screen. In the multi screen mode, the system displays the 2x2 live screens sequentially.

For example, if the system is in the full screen mode or the 2x2 screen, it changes pages as follows.



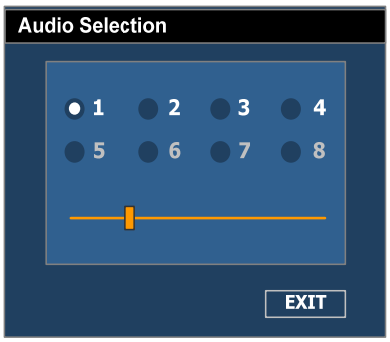
For example, if the system is in the 2x2 screen mode, it changes pages as follows.



Press the SEQ key again to exit the sequence mode.

4.4.3 Audio Control

Pressing the Audio key on the front panel or selecting Audio from the Mouse Menu will display the Audio Selection screen.



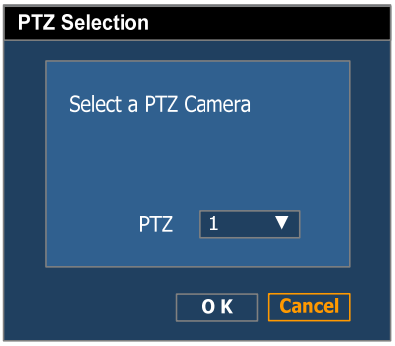
You can select an audio channel you want to connect. An audio icon, will appear in the corner of a multi-screen to indicate audio is available on a particular channel.
Note: Pressing the MUTE key on the front panel causes the system to set the audio level to the minimum level. The system displays mute icon, instead audio icon, . Pressing the button again toggles the mute between on and off

Increases or decreases the audio volume using the slider bar. To use the front panel buttons, press the Left and Right arrow keys to control the audio volume.

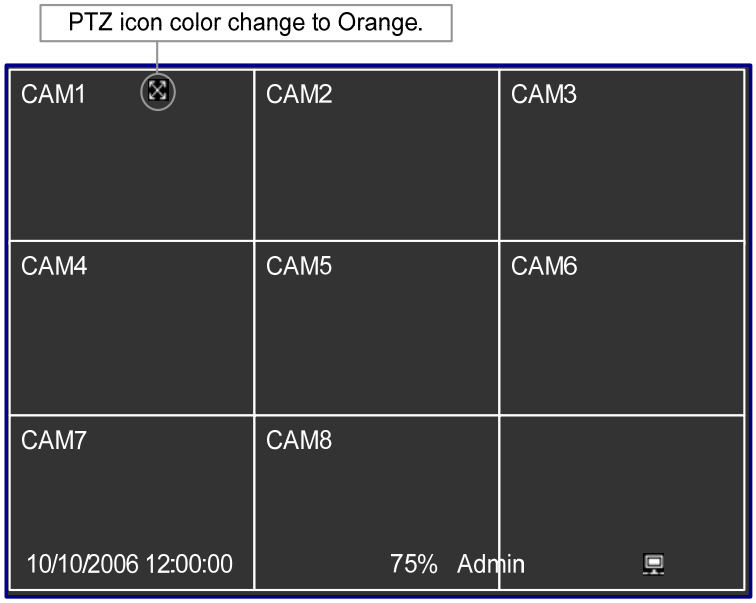
4.4.4. PTZ Control

If a user who has PTZ Control authority logs into the system, the user can control PTZ cameras. The system will control cameras with Pan, Tilt and Zoom capabilities. Press the PTZ key on the front panel to enter the PTZ mode and press the button again to exit the PTZ mode. You can control the camera using front panel control buttons.

Press the PTZ key on the front panel or select Key Add Function from the Mouse Menu. A pop-up window to select a channel of the PTZ cameras will be displayed. Select the PTZ camera you wish to control by selecting it from the menu.



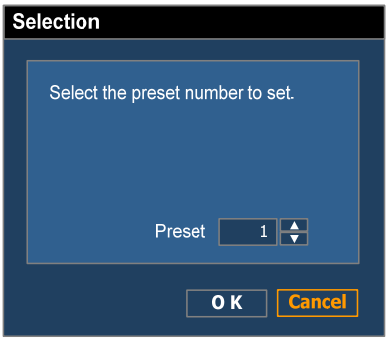
The PTZ icon, change orange color on the PTZ camera screen. That means a live screen mode is converted to PTZ control mode.



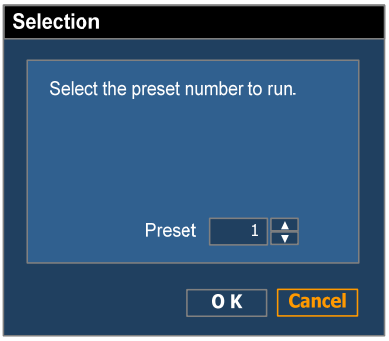
To use the front panel buttons, press the Left and Right arrow buttons to pan left and right. Press the Up and Down arrow buttons to tilt the camera up and down. Press the button to zoom in, and press the button to zoom out. You can use the and

buttons to focus the image. Press the and buttons to control the PTZ iris.

You can establish preset positions for PTZ cameras. Press the to establish Presets and enter a preset number. Press the OK button to save new settings or the CANCEL button to cancel new settings.



You can quickly move PTZ cameras to Preset positions. Press the to view an establish camera Preset position and enter a preset number.

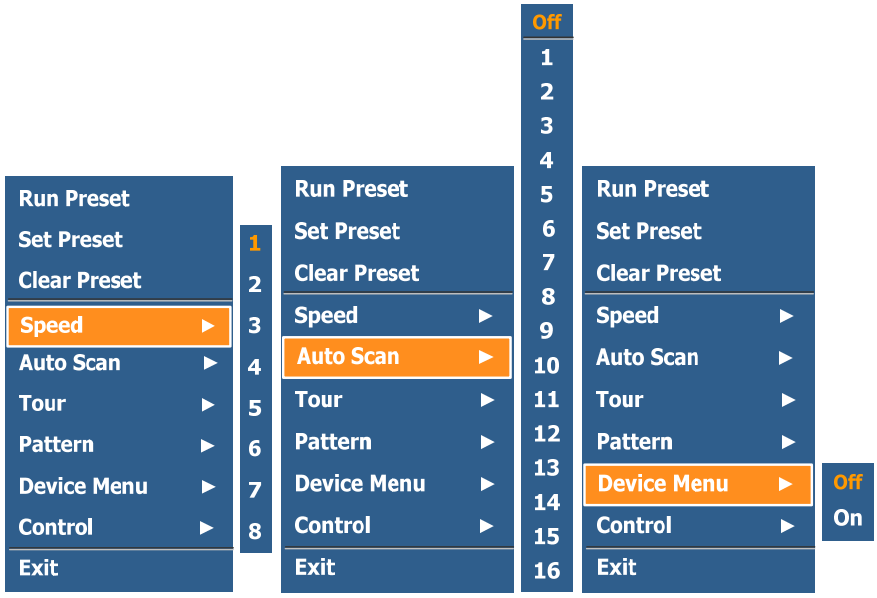


You can use a mouse for convenient PTZ control. Position the mouse point at the bottom of the screen in the PTZ mode, and the following PTZ toolbar will display.

Clicking on the right side exits the toolbar. If you want to display the toolbar again, position the mouse pointer at the bottom of the screen. Use the arrow buttons on the toolbar to pan or tilt the camera to the direction you want, and other individual controls on the toolbar perform Focus, Iris, Zoom, Set and Run.

Pressing the PTZ key on the front panel in the PTZ mode will display the PTZ function window as below. You can control the expanded PTZ features in this mode.

You can set or run the preset for a PTZ camera in this window. The PRESET field enables PTZ-camera-related configurations such as controlling the direction, zoom, and iris. A maximum of 999 presets can be saved. Enter a preset number then, press the OK button. After that, if you select the RUN PRESET, the PTZ camera will move to the preset position and exit the PTZ function window.
Set the feature you wish to control by selecting it from the menu. Refer to the camera manufacturer's instructions for the proper settings.



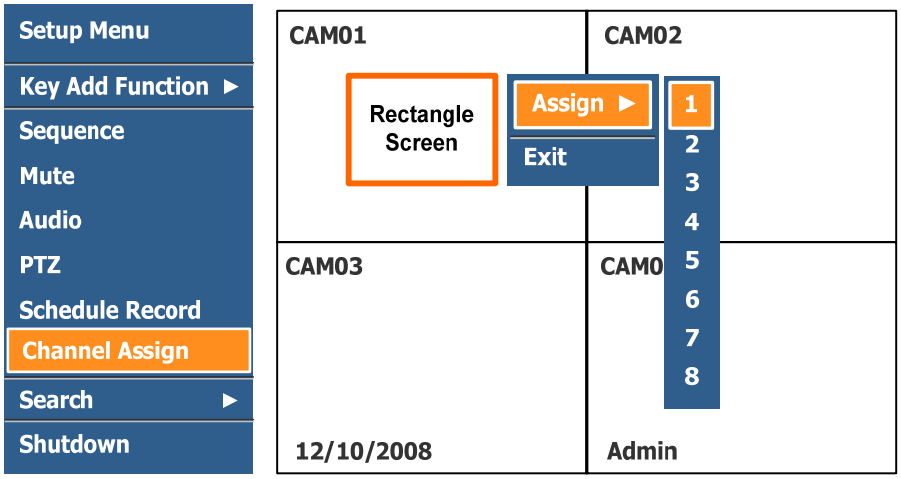
Select EXIT to exit the PTZ control mode.

Note: Settings related to PTZ such as a product and brand name, ID, and serial information, should be predefined for the proper operation.

Cause: You will not be able to use Text-In if you are using the Serial port for PTZ control.

4.4.5. Channel Assign

You can rearrange channel position in the live screen mode. Press ↵ (Enter) key during 3 seconds or more on the front panel or select Channel Assign from the Mouse Menu. Rectangle Screen appears.

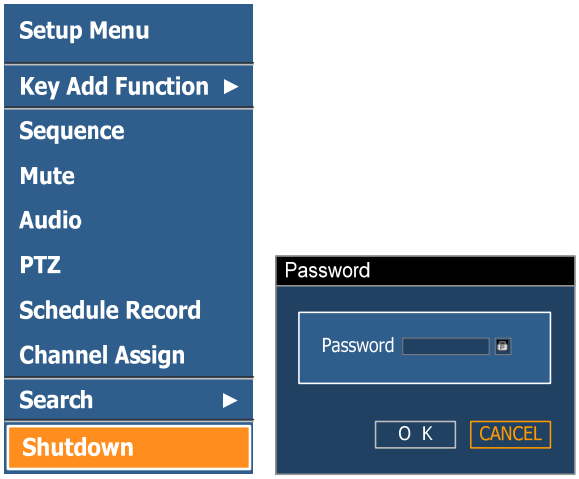


Use the Up, Down, Left and Right keys to move the location of the rectangle screen. Press the Channel number to be exchanged with a current channel. Press Menu key to see Assign pop-up menu. Select the channel number to be exchanged with current channel. It is also possible to exchange channel position by pressing a channel button on the front panel in the rectangle screen mode. Press Exit button to exit Channel Assign menu.

You can also move the location of the rectangle screen by mouse. And then, click right button of mouse to select a channel number to be exchanged.

4.4.6. Shutdown Control

Press and hold the Power Button on the front panel or remote control for three seconds to turn off the System, or select Shutdown from the Mouse Menu. Enter the Admin Password (blank by default).



Only the ADMIN can turn the unit ON/OFF. The System will NOT continue to record while the unit is off. The LED indicators on the front of the System will be OFF.

4.5. Playing Record Video

If a user who has Search authority logs into the system, the user can view recorded image. Once video has been recorded, you can view it by pressing the PLAY, ▶ key on the front panel. When playing video for the first time, the system will display the most recent image. When playing video the last times, the system will start playing video from the last image. Recorded audio will be played while the system displays the camera with recorded audio.

PLAY Button
Pressing the ▶ button plays video forward at regular speed.

RW (Rewind) Button
Pressing the ◀◀ button plays video backward at regular speed. Pressing the button again toggles the playback speed between ◀,◀◀, ◀◀◀ and ◀◀◀◀. The screen displays ◀◀, ◀◀◀ and ◀◀◀◀ respectively.

FF (Fast Forward) Button
Pressing the ▶▶ button plays video forward at high speed. Pressing the button again toggles the playback speed between ▶▶, ▶▶▶ and ▶▶▶▶. The screen displays ▶▶, ▶▶▶ and ▶▶▶▶ respectively.

PAUSE Button
Pressing the ❚❚ button freezes the video on the screen.

STOP Button
Pressing the ■ button while in the playback mode returns the system to the live screen mode.

Step Forward Button
Pressing the ▶▶ button plays step forward one frame in the pause mode.

Step Reverse Button
Pressing the ◀◀ button plays step reverse one frame in the pause mode.

Camera Button (1 to 8)
Pressing a camera button will display that camera full screen.

VIEW Button
Pressing the VIEW key will cycle the display through the different screen layouts. The display modes are: full, 2x2, 1+5, 1+7, 3x3.

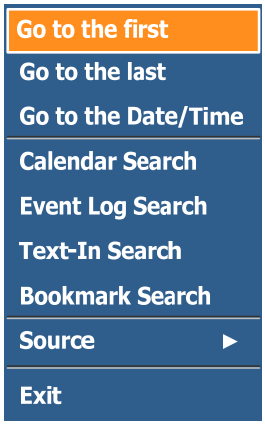
Mouse Usage
You can use a mouse for convenient playback control. Position the mouse pointer at the bottom of the playback screen, and the following search toolbar will display.

Clicking ✖ on the left side exits the toolbar. If you want to display the toolbar again, position the mouse pointer at the bottom of the playback screen.

The individual controls on the toolbar perform the following functions as described below:

- Go to the first image,
- Play video backward at regular speed
- Pause
- Play video forward at regular speed
- Go to the last image
- Fast backward play
- Step backward one frame
- Step forward one frame
- Fast forward play

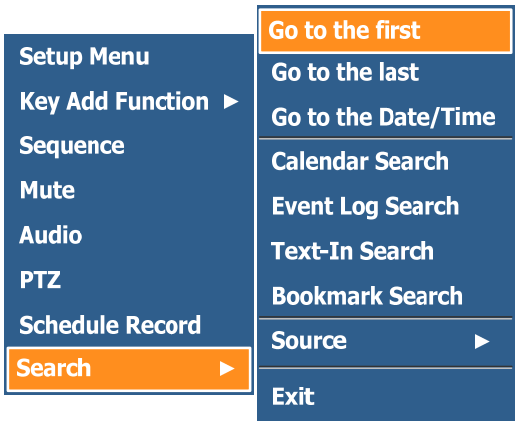
Clicking the right mouse button during playback displays the following menu:



Selecting BOOKMARK, ADD KEY FUNCTION... and AUDIO... is the same as pressing the MARK, Fn and AUDIO keys as described in “3.2. Key Function”. Selecting SEARCH causes the system to enter the Search mode. Select EXIT to exit the playback mode.

4.6. Searching Record Video

Pressing the SEARCH key on the front panel or the remote controller causes the system to enter the Search mode while in the Live monitoring mode or in the Playback mode. The Search function window will be displayed.

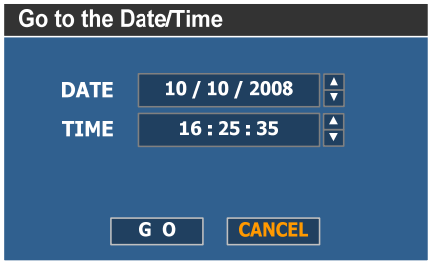


Select Source HDD you want to search at first in the source list.

Go to the First
Select “Go to the First” in the search screen menu.
This function displays the first recorded image.

Go to the Last
Select “Go to the Last” in the search function menu.
This function displays the last recorded image.

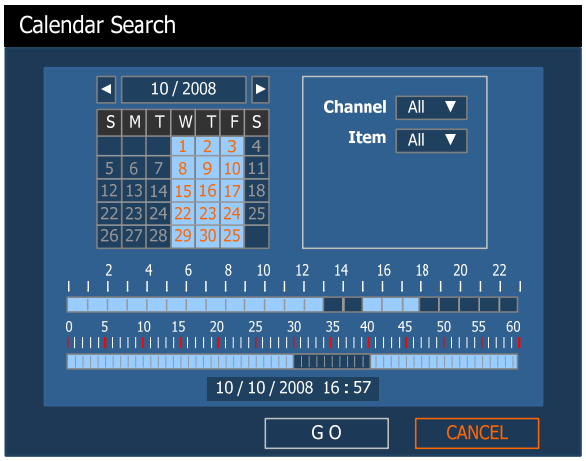
Go to the Date/Time
Select “Go to the Date/Time” in the search function menu.
This function searches a recorded video by date and time you want. Go to the Time/Date window is shown below.



Select the year, month, day, hour, minute and seconds you want to search for video. Use the arrow (up/down) key on the front panel to change the date and time.

Calendar Search

Select “Calendar Search” in the search screen menu. A basic search screen will be displayed as below.



Select CHANNEL, ITEM and month you want to search.
Days with recorded video display on the calendar with red numbers. You can highlight the days with recorded video by using the arrow buttons.
Once you have highlighted a day, press the ↵ key to select it and a time bar will be displayed.

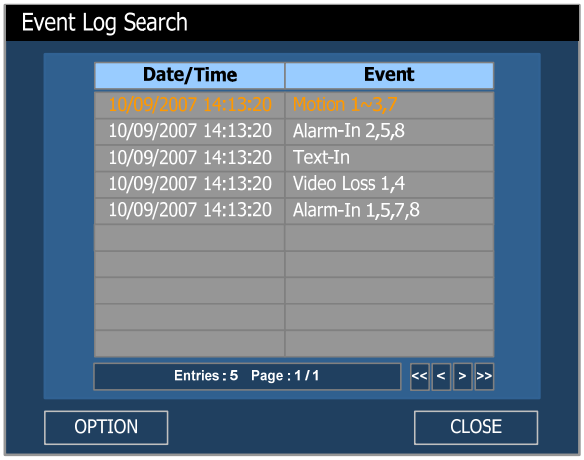
Hours in which video was recorded will be highlighted in the 24 hours time bar. You can highlight the hours with recorded video by using the arrow buttons. Once you have highlighted an hour, press the ↵ key to select it and minutes in which video was recorded will be highlighted. You can see the 60 minutes bar at the bottom of the 24 hours bar. Once minutes are highlighted, press the ↵ key to select it. The playback will be started at the time you selected.

Note: The 24 hours time table has 24 one-hour segments. Each segment is consist of 24-numeric which is ranged from 0 to 23. If a segment is highlighted, it means that some video was recorded during that hour. However, it does NOT mean video was recorded for the entire hour.

Note: The 60 minutes time bar has 60 one-minute segments. If a segment is highlighted, it means that some video was recorded during that minute. However, it does NOT mean video was recorded for the entire hour.

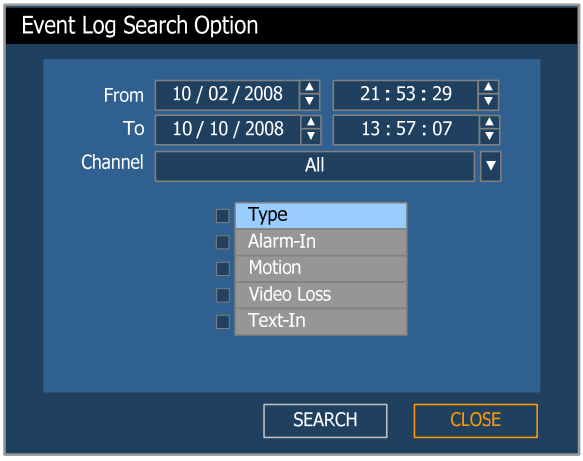
Event Log Search

Select “EVENT LOG SEARCH” in the search function menu. A basic search screen will be displayed as below.



The system maintains a log of each time the Alarm Input port is activated. The Event Log Search screen displays this list. Use the arrow buttons to select the event for which you would like to see video.

Pressing the ↵ key will extract the event video and display the first image of the event. Pressing the PLAY, ▶ key will start playing the “event” video segment. Pressing the STOP, ■ key causes the system to return to live monitoring mode.
You can also narrow your event search by selecting the OPTION button and setting up the new search condition.

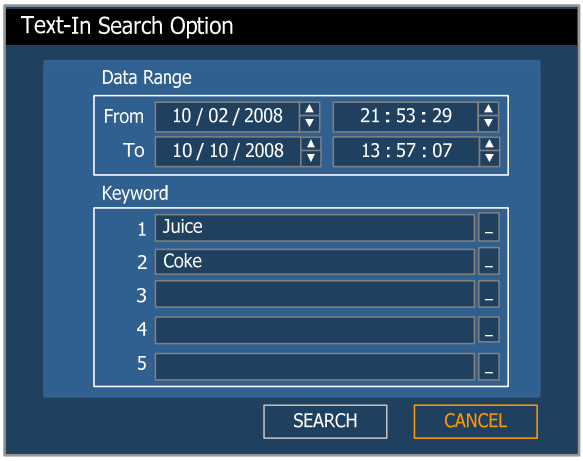


You can search video from the first to last recorded images, or you can set the start and stop times and dates.
Selecting the FROM and TO field will allow the user to manually change the time to be searched.
Select the cameras you want to search in the CH field and Highlight the box beside each event source in the TYPE field. You can select the events for which you want to search.
Once you set your desired search conditions, select the SEARCH button to display the search results.

Text-In Search

Text-In Search allows the user to search a recorded video initiated by a Text-In input such as a POS device.

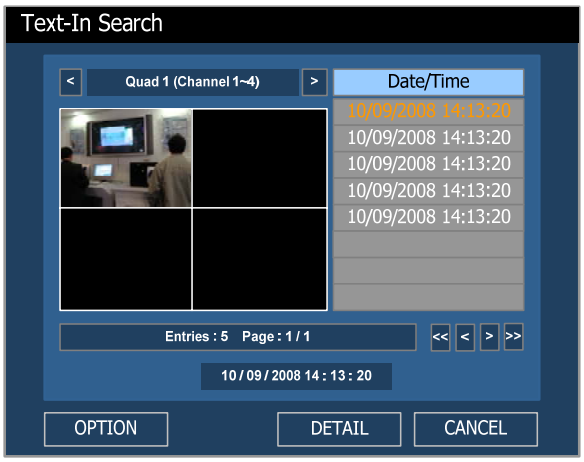
Select TEXT-IN SEARCH in the search function menu to display a Text-In search window as below. Selecting a particular event in the list will play a video of the chosen date and time.



Selecting the FROM and TO field will allow the user to manually change the time to be searched.

If the KEYWORD fields are blank, all the Text-In events are searched. You can enter a maximum of 5 items to be searched, and any Text-In event containing any of the typed word will be searched.

Press the SEARCH button in Text-In Search window. The Text-in Search screen displays a list of text-in events and extracts the video associated with the text-in event.



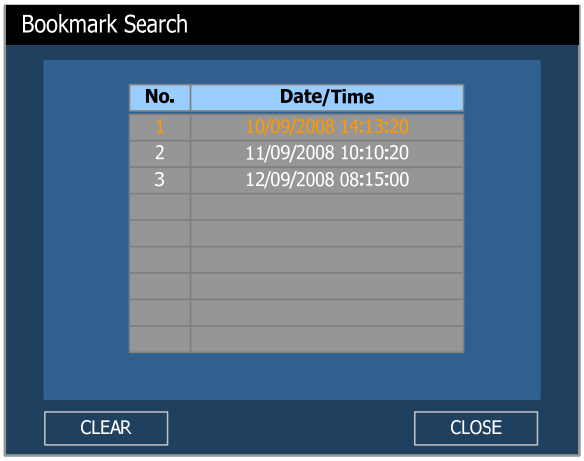
Use the arrow buttons to highlight the event for which you would like to see video. Selecting a particular event in the list will play a video of the chosen date and time.
In this time, the playback screen is placed inside of the rectangle border line. The video will be played during recorded time for that event.

Press the DETAIL button to overlay text-in data on the video during the Text-In playback.
Pressing the MENU key while in the On-Screen Text-In playback mode returns the system to the Text-In search mode.
Pressing the PLAY, ▶ key while in the Text-In search mode returns the system to the Playback mode and exits the Text-In Search mode.
Press the MENU key to exit the Text-In search mode.

Note: The video in the Text-In playback mode is just played at regular speed.

Bookmark Search

Select “BOOKMARK SEARCH” in the search function menu to display a bookmark search window as below.



The Bookmark Search screen displays a list of the video associated with bookmark in the recording mode.
Use the arrow buttons to highlight the list for which you would like to see video. Selecting a particular item in the list will play a video of the chosen date and time.

Note: You can use the MARK key on the front panel to mark the point of the bookmark search wile in playing video. A maximum of 16 points can be saved for a bookmark.

5. VGA Mode

VGA Mode is used to display a device (i.e. a Computer) connected to the VGA Port on the monitor.

Press the Fn key on the front panel during 3 seconds or more, and you can switch to the Monitor to VGA mode from DVR mode. Pressing the key again toggles DVR and VGA mode.

You can also change display mode with Remote Controller. Press the LCD(MODE) button to change display mode in the Remote Controller. Pressing the key again toggles DVR and VGA mode.

NOTE: The Combo System will continue to record while in other modes. This provides an advanced level of Covert Surveillance.

VGA Connection Errors

If the Computer is not correctly connected to the Monitor, several different error messages may be displayed:

- **Cable Not Connected**:
  Indicate that the VGA cable has not been securely fastened to either the Monitor or PC.

- **No Sync or Signal**:
  Indicate that the PC is not sending a good signal. Try changing modes on the PC.

- **Going to Sleep**:
  Indicate that the Monitor is not receiving a signal from the PC, and is going into hibernation. This does not affect the DVR functions.

6. LCD Monitor Control

Press the MENU key of the Remote Controller or the front panel of the Combo System during 3 seconds or more to enter the Monitor Setup Menu. The Monitor Setup Menu controls the behavior and look of the Monitor (i.e. changing the Brightness and Contrast will affect the Brightness and Contrast in all Modes).

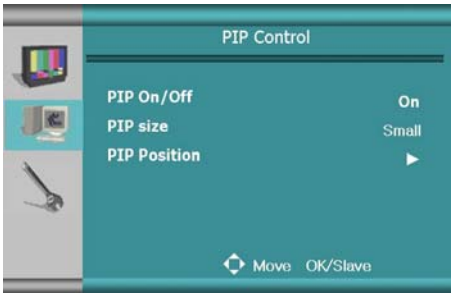
Note: The mouse cannot be used to change values in this menu.

6.1. Panel Adjust

You can configure the brightness and contrast of the LCD panel. Highlight the icon in the Monitor Setup Menu and press the ↵ key. The Panel setup screen appears.

6.2. Display Settings

Highlight the icon in the Monitor Setup Menu and press the ↵ key. The Display setup screen appears.



Use the Arrow keys on the Remote Controller or the Front Panel to select from Display Image, Aspect Ration or PIP Control. Use the enter key to access the PIP Control submenus. Change the values using the arrow keys and enter.

- **Auto Configuration**: Set the configurations of the monitor. Select YES to allow the system to set the color, or NO to exit.
- **Display Image**: Sets the image display to Auto or Manual.

- **Aspect Ratio**: Set the Aspect Ratio for the monitor. In case that Display Image item is Auto, this item is inactivated.
- **PIP Control**: Set the PIP On/Off, PIP Position and PIP Size.
  - **PIP On/Off**: Turns the display of the PIP (Picture in Picture) ON or OFF. If you turn the PIP to OFF, the default DVR screen will not be displayed when the PIP button on the remote control is pressed.
  - **PIP Size**: Change the display size to Small, Medium or Large.
  - **PIP Position**: Use the Up, Down, Left and Right arrows to adjust the location of the PIP Screen. Press the Enter button to set, and the Return button to exit the menu.

6.3. System

Highlight the icon in the Monitor Setup Menu and press the ↵ key. The Misc. setup screen appears.

Use the Arrow keys on the Remote Controller or the Front Panel to access menus. Change the values using the arrow keys and enter.

- **Mode**: Set the current display mode to VGA or DVR.
- **Language**: Set the language to use.

Appendix A – Factory Default Settings

Menu	Sub Menu	Item	Parameter	Default Setting
SYSTEM	INFORMATION		SYSTEM ID	1
	DATE / TIME	DATE/TIME	FORMAT : DATE TIME TIME ZONE USE DST	 MM/DD/YYYY 24H GMT-05:00 OFF
		TIME SYNC.	INTERVAL	OFF
	USER	LOCAL	AUTO LOG-OUT TIME	OFF
	DISK MANAGER	DISK MANAGER	RECORD MODE DISK FULL WARNING DISK FULL ACTION MIRROR	OVERWRITE 90% BUZZER,LAN OFF
DEVICE	CAMERA	SETTINGS	NAME (CH1~CH8) COVERT	CAM1 ~ CAM8 OFF
	PTZ		ON/OFF PROTOCOL ID	OFF CDC2400 (DYNA..) 0
	DISPLAY	DISPLAY	OSD: DATE/TIME AUDIO OUTPUT EVENT MARK NETWORK DISK SIZE USER CAM NAME PTZ LANGUAGE SEQUENCE DWELL TIME EVENT SCREEN MODE	 ON ON ON ON ON ON ON ON ENGLISH 3SEC UNCHANGED
		SCREEN SAVE	ON/OFF TYPE TIME AUTO	OFF AUTO O N: 09:00:00 OFF: 17:00:00 5 MIN

	REMOTE CONTROL		PRODUCT TYPE	REMOTE CONTROL
EVENT	ALARM-IN		HOLD TIME ON/OFF TYPE ACTION RECORD	5SEC ON N/O RELAY,BUZZER Current Channel
	MOTION	SETTINGS	HOLD TIME ON/OFF SENSITIVITY BLOCKS AREA	5SEC ON 3 1 All Block
		ACTIONS	RECORD	Current Channel
	VIDEO LOSS		HOLD TIME ON/OFF RECORD	5SEC ON None
	TEXT-IN	SETTINGS	HOLD TIME DISPLAY ON/OFF PRODUCT TYPE	5SEC ON ON GENERIC TEXT
		ACTIONS	RECORD	ALL
	SYSTEM EVENT	SETTINGS	DISK ALMOST FULL: ON/OFF HOLD TIME ACTION DISK FULL: ON/OFF HOLD TIME ACTION DISK TEMPERATURE: ON/OFF HOLD TIME ACTION DISK S.M.A.R.T.: ON/OFF HOLD TIME ACTION	 OFF 5SEC BUZZER OFF 5SEC BUZZER ON 5SEC BUZZER OFF 5SEC BUZZER
		DISK	DISK ALMOST FULL DISK TEMPERATURE: LIMIT TYPE	90% 140 FAHRENHEIT

RECORD	RECORD	RECORD	RESOLUTION VIDEO AUDIO SPEED (CONTI./EVENT) QUALITY (CONTI./EVENT)	352 x 240 1~8:ON 1~4:ON, 5~8:OFF 30/30 BEST/BEST
		SCHEDULE		CONTINUOUS
		PRE-EVENT	ON/OFF DWELL TIME	ON 5SEC
		SETTINGS	OVERWRITE ENABLE MIRROR	ON OFF
NETWORK	NETWORK	LAN	TYPE IP ADDRESS SUBNET MASK GATEWAY DNS SERVER PORT	DHCP 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 SETUP : 3000 LIVE : 3001 PLAYBACK : 3002 DOWNLOAD : 3003 WEB : 80
		SERIAL	RS-232: ON/OFF USE STOP BIT RS-485: ON/OFF USE USB-SERIAL1: ON/OFF USE USB-SERIAL2: ON/OFF USE PORT: BAUD RATE (BPS) PARITY DATA BIT STOP BIT	 OFF TEXT-IN 1 ON PTZ OFF TEXT-IN 2 OFF TEXT-IN 3 ALL PORT 9600 NONE 1 1
		DDNS	ON/OFF	OFF
	NOTIFICATION	E-MAIL	RECIPIENTS: ON/OFF INTERVAL LIMIT	 OFF 1 MIN 1
		NETWORK	SITES: ON/OFF PORT	 OFF 3009

Appendix B – System Log & Event Log

System Log

Log Message	Description
START UP	System power on start
SETUP BEGIN	System setup began at the local site
SETUP END	System setup ended at the local site
SETUP CHANGE	System setup changed at the local site
RECORD ON	Schedule recording began
RECORD OFF	Schedule recording ended
RMT SETUP WRITE	System setup saved at the remote site
RMT SETUP READ	System setup read at the remote site
BACKUP BEGIN	System backup began
BACKUP END	System backup ended
BACKUP FAIL	System backup failed
BACKUP CANCEL	System backup canceled
TIME CHANGE(USER)	System time changed by USER
TIME CHANGE(NTP)	System time changed by NTP
TIME CHANGE(RTC)	System time changed by RTC
ZONE CHANGE	System time zone changed
CLIP-COPY BEGIN	System Clip-Copy began
CLIP-COPY END	System Clip-Copy ended
CLIP-COPY FAIL	System Clip-Copy failed
CLIP-COPY CANCEL	System Clip-Copy canceled
DISK HOT	DISK high temperature
FORMAT(INTERNAL)	Internal DISK format began
FORMAT(USB)	External USB HDD format began
SYSTEM UPDATE	System upgraded
FACTORY DEFAULT	Factory default began
DISK FULL	DISK is full
E-MAIL SEND FAIL	E-mail sending failed
S.M.A.R.T. FAIL	S.M.A.R.T. is bad
MIRROR FAIL	Mirror failed

Event Log

Log Message	Description
Motion All	Motion event detected from all channels.
Motion 1~2,4,7~8	Motion event detected from channel 1,2,4,7 and 8
Video Loss All	Video Loss detected from all channels.
Video Loss 1~2,4,7~8	Video Loss detected from channel 1,2,4,7 and 8
Text-In All	Text-In event detected and forced all the channel to be recorded
Text-In 1~2,4,7	Text-In event detected and forced channel 1,2,4,7 to be recorded
Alarm-In All	Alarm-In event detected from all channels.
Alarm-In 1~2,4,7~8	Alarm-In event detected from channel 1,2,4,7 and 8

Appendix C – Pop-Up Messages

Classification	Message	Description
Displays the status of an instantaneous operation (disappeared automatically after completion)	PLEASE WAIT...	Waiting for internal operation.
	DETECTING USB DEVICE...	Detecting the USB device.
	SNAPSHOT IS EXECUTING. PLEASE WAIT...	Waiting for the Snap Shot operation.
	TO APPLY NEW S/W, YOU SHOULD RESTART THE SYSTEM. NOW REBOOTING...	The system restarts after succeeding in the System Update.
Displays the status of event, error and operation (disappeared in case only user press the OK button)	THE DISK IS FULL !! NO OVERWRITE MODE.	The DISK was full
	THE DISK IS ALMOST FULL, NO OVERWRITE MODE.	The DISK is almost full
	OLD FILESYSTEM FOUND IN INTERNAL1. FORMAT NEEDED FOR RECORDING.	The system found the DISK a different version of file system was applied.
	OTHER SYSTEM'S DISK FOUND IN INTERNAL1, FORMAT NEEDED FOR RECORDING.	The system found the DISK a different file system was applied.
	NEW DISK FOUND IN INTERNAL1. FORMAT NEEDED FOR RECORD.	The system found a new DISK
	BACKUP/CLIP-COPY COMPLETED.	The Backup or Clip-Copy was completed.
	BACKUP/CLIP-COPY STOPPED.	The Backup or Clip-Copy was stopped.
	BACKUP/CLIP-COPY FAILED.	The Backup or Clip-Copy was failed.
	FORMAT FAILED. CHECK DISK STATUS AND TRY AGAIN.	The DISK Format was failed.
	UPDATE FAILED.	The System Update failed.
	MIRROR HALTED! CHECK YOUR USB DEVICE OR USB CABLE.	Mirror was halted while mirroring.
Displays the status of user handle, device detection and instantaneous operation. (disappeared automatically after 2 seconds)	BOOKMARK FAILED.	Bookmark failed.
	THE CURRENT PLAYBACK TIME IS BOOKMARKED.	Bookmark succeeded.
	ABC FILE SAVED.	Snapshot succeeded. (in case that filename is ABC)
	INVALID PRESET NUMBER !	The DVR user tried to use wrong preset number in the PTZ Setup mode.
	USB DEVICE ATTACHED.	The system found a new USB device.
	USB DEVICE DETACHED.	The USB device was extracted from the system.
	ACCESS DENIED	User had no access authority.
	THIS CAMERA IS NOT PTZ CAMERA.	User tried to use PTZ function for the channel not to be defined as a PTZ.
	CHECK YOUR PASSWORD AND TRY AGAIN.	User entered a wrong password.
	NO INPUT !	User needed to enter numeric.
	INVALID RANGE! ENTER CORRECT RANGE.	A selected time range is wrong
	NO RECORD DATA.	The system can't find record data in the Bookmark Search mode.
	SITE1 ADDRESS IS AN INVALID FORMAT.	User entered a wrong site address in the Notification Setup mode.
	SCREEN ON TIME AND SCREEN OFF TIME IS SAME.	The value of Screen On and Off is same in the Screen Setup mode.
	RS232 PORT IS BEING USED BY KEYBOARD. SET UP THE RS232 PORT.	User tried to change from Remote Keyboard to PTZ in the Serial Setup mode.
	RS232 PORT IS BEING USED BY POS. SET UP THE RS233 PORT.	User tried to change from POS to PTZ in the Serial Setup mode.
	PTZ MODE IS BEING USED BY CLIENT.	User tried to handle same PTZ while the remote client controls a PTZ camera.
	MAIN MENU IS BEING USED BY CLIENT.	User tried to enter the setup mode during the remote setup
	NO INPUT FILE NAME! ENTER THE FILE NAME.	User tried to start without filename in the Clip-Copy mode.
	TOO BIG FILE SIZE. LIMITTED TO 2GB.	The file size selected by user was bigger than 2GB in the Clip-Copy mode
	THE SAME FILE IS IN YOUR STORAGE. ENTER DIFFERENT FILE NAME.	User entered the filename already existed in the storage in the Clip-Copy mode.
	SAME ID EXISTED.	User tried to select the ID already existed in the PTZ Setup mode.

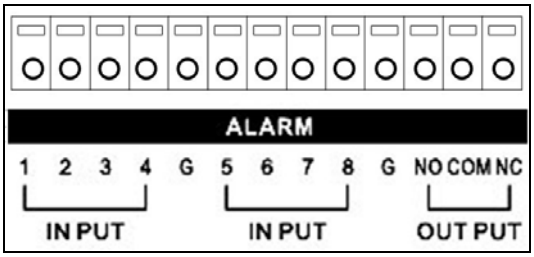
Classification	Message	Description
Displays the status of user handle, device detection and instantaneous operation. (disappeared automatically after 2 seconds)	INVALID DOMAIN NAME. ENTER CORRECT DOMAIN NAME.	User entered an invalid domain name in the DDNS Setup mode.
	DOMAIN NAME IS TOO LONG.	The domain name is too long in the DDNS Setup mode.
	SAME PORTS EXISTED.	User tried to select the Port Number already existed in the Port Setup mode.
	ADMIN IS NOT ALLOWED. ENTER DIFFERENT ID.	User entered ADMIN as an ID in the Notification Setup mode.
	USER IS NOT ALLOWED. ENTER DIFFERENT ID.	User entered USER as an ID in the Notification Setup mode.
	SAME ID EXISTED. ENTER DIFFERENT ID.	User tried to select the ID already existed Notification Setup mode.
	INVALID ADDRESS	The system has an invalid NTP server address during the NTP checking.
	SERVICE FAILED.	The system can't connect to the NTP server during the NTP checking.
	ADDRESS1 IS NOT AN E-MAIL FORMAT.	User tried to use an invalid format of e-mail address in the Notification Setup mode.
	SENDER ADDRESS IS NOT AN E-MAIL FORMAT.	User tried to use an invalid format of e-mail address in the Notification Setup mode.
	SAME VERSION	The firmware version for the upgrade is same as old one.
	NO AUDIO !!	User tried to control volume for channel 5, 6, 7 and 8

Appendix D – Troubleshooting

Problem	Possible Solution
No Power	▪ Check the power adaptor connections. ▪ Confirm that there is power at the outlet.
No Live Video	▪ Check camera video cable and connections. ▪ Check LCD panel power button. ▪ Confirm that the camera has power. ▪ Check camera lens settings.
The system has stopped recording	▪ If hard disk drive is full, you will either need to delete video or set the system to the Overwrite Mode. ▪ Check recording schedule settings. ▪ Check recording button on the remote controller.
Live Video Very Bright or Very Dark	▪ Adjust the Brightness and the Contrast of the system. (Refer to the Menu Setup Section)
The system is powered up but do not respond any operation	▪ Turn the main power off and wait for 5 seconds. The LED indicator on the front panel should be turned off. ▪ Turn the main power on again.
Live Video Flickers or Shrinks	▪ Check camera video cable and connections. ▪ Disconnect and reconnect camera video. ▪ Clean the camera lends. ▪ Check that the camera is not in direct sunlight.

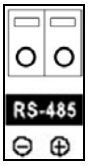
Appendix E – Connector Pin Outs

I/O Connector



Input (1 to 8)	Alarm Inputs 1 to 8
G	Chassis Ground
NO	Normally Open
COM	Common
NC	Normally Open

RS485 Connector



Master Unit				Slave Unit
+	=>	TO	=>	TX+
-	=>	TO	=>	TX-

Appendix F – Comprehension about Archive and Mirror function

ITEM		ARCHIVE		MIRROR
		BACKUP	CLIP-COPY	
Description		Clips a video segment already stored in the storage and saves it to the external storage.		Records a video to the internal storage and copies it to the external storage at the same time.
Available Media		USB HDD**1**	USB CD-RW USB DVD-RW**2** USB STICK**3**	USB HDD**1**
Maximum File Size (per 1 times)		300GB	2GB	-
Playback	**Windows**	X	○	X
	DVR Combo	○	X	○

The LCD Combo DVR supports multi-session record for CD-R/W. So you can execute a clip-copy many times under free space condition. For example, if you have 750MB CD and an estimated file size for clip-copy is 100MB you can copy clips 7 times.

The LCD Combo DVR adopted its unique file system. So the files stored in the internal storage or mirrored files can't be played in the other system including Windows PC.

1. The capacity of HDD for the Mirror or Backup should be bigger than or equal to one of internal hard disk.
2. Available CD(DVD) media: CD–R, CD–RW, DVD–R, DVD+R and DVD–RW
3. The capacity of USB stick should be bigger than or equal to 128MB

Appendix G - Specifications

SYSTEM	
Operating System	Embedded Linux (Built-In Flash Memory)
Language	English (Multi Languages will be available)
Storage	One HDD
Data Export Medium	USB (HDD, Flash Drive, CD-RW)
Data Backup	Archiving (USB HDD), Clip-Copy (CD-RW, USB Flash Drive)
Disk Management	Temperature Check, SMART Diagnosis, Auto Recovery

VIDEO	
Video Source	NTSC or PAL (Auto Detect)
Video Input	Composite: 8, 6pin 4 DIN & 4 BNC inputs, 1 Vp-p, 75 Ohms
Video Resolution	720x480 (NTSC), 720x576 (PAL)
Display Rate	Real-Time Display

RECORD & PLAYBACK	
Compression Method	H.264
Recording Rate	240 IPS (NTSC) @ 352x240 / all cameras 120 IPS (NTSC) @ 704x240 / all cameras 60 IPS (NTSC) @ 704x480 / all cameras
Playback Rate	Same as Recording Rate
Recording Mode	Time-Lapse, Event, Pre-Event (up to 30 sec regardless of IPS), Text-In
Search Mode	Calendar, Time/Date, Event Log, Text-In, Bookmark

NETWORK	
Connection	10/100 Mbps Ethernet (RJ-45)
Protocols	Static IP, DHCP, DDNS
Remote Software	Monitoring, Playback, Setup, Upgrade, System Status Check, image Capture & Print, Clip Player

INPUTS/OUTPUTS	
Alarm Input	8 TTL, Terminal Block, programmable as NC or NO
Alarm Output	1 Relay Out, Terminal Block, NC & NO, 5A @ 125VAC/30VDC, 3A @ 250VAC
Audio In / Out	4(CAM1,2,3,4 fixed & Built-in MIC)/1(Built-in Speaker)
IR Port	1 Remote Control
User Interface	Remote control, Mouse, IR Remote Control, Front Buttons
USB Port	2 (USB 2.0)
VGA Port	DSUB15
RS485 Serial Port	2 Connector Terminal Block

LCD	
LCD Panel	19" TFT LCD Panel
Active Display Area (Diagonal)	19.0 Inches
Pixel format	1280(H) X 1024 (V), RGB Vertical Stripe
Pixel Pitch	0.294mm X 0.294mm
Color Depths	16.7M Colors
Contrast Ratio	1000 : 1 (Typical)
Brightness	300cd / m2
Viewing Angles (Left/Right/Up/Down)	80˚ / 80˚ / 80˚ / 80˚ (Typical)
Light Source / Lifetime	4CCFT / 50,000 Hours (Minimum)
Response Time (Tr / Tf)	1.5/3.5ms (Rising / Falling)

GENERAL	
Dimensions (W x H x D)	568 mm x 638 mm x 310 mm (Including Packing Ass'y)
Weight	19.5 Kg / 43 lbs
Unit Dimension	16.8" x 19.3" x 7.9"(WxHxD)
Unit Weight	8.4kg / 18.5lbs (Including Stand)
Operation Environment	Temperature: 0 ~ 40 ℃, Humidity: 0 ~ 80 %
Power (AC input)	100VAC~240VAC, 12VDC, 5.5A, 50/60 Hz
Approval	FCC, CSA, UL

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